HCD-EP313

SERVICE MANUAL

Ver. 1.5 2005. 11

US Model
Canadian Model
AEP Model
UK Model
E Model

HCD-EP313 is the Amplifier, CD player, Tape Deck and Tuner section in CMT-EP313.

CD Section	Model Name Using Similar Mechanism	NEW
	CD Mechanism Type	KSM-213EDP
	Base Unit Name	BU-K7BD44B
	Optical Pick-up Name	KSS-213E/C2N
TAPE Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	ADR2080FR4

SPECIFICATIONS

Amplifier section

AUDIO POWER SPECIFICATIONS: (U.S.A. model only)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
With 6-ohm loads, both channels driven, from 120 - 10,000 Hz; rated 10 watts per channel minimum RMS power, with no more than 10% total harmonic distortion from 250 milliwatts to rated output.
North American model:
Continuous RMS power output (reference): 10 + 10 W (6 ohms at 1 kHz, 10% THD)
European model:
DIN power output (rated): 7 + 7 W (6 ohms at 1 kHz, DIN)
Continuous RMS power output (reference): 10 + 10 W (6 ohms at 1 kHz, 10% THD)
Music power output (reference): 20 + 20 W
Other models:
The following measured at AC 230 V or AC 120 V, 50/60 Hz
DIN power output (rated): 7 + 7 W (6 ohms at 1 kHz, DIN)
Continuous RMS power output (reference): 10 + 10 W (6 ohms at 1 kHz, 10% THD)

Inputs
MD IN (phono jacks): Sensitivity 500 mV, impedance 47 kilohms
Outputs
PHONES (stereo minijack): Accepts headphones with an impedance of 8 ohms or more
SPEAKER: Accepts impedance of 6 to 16 ohms.

CD player section

System: Compact disc and digital audio system
Laser: Semiconductor laser (λ=780 nm) Emission duration: continuous
Frequency response: 2 Hz – 20 kHz (±0.5 dB)

Tape deck section

Recording system: 4-track 2-channel stereo
Frequency response: 50 – 13,000 Hz (±3 dB), using Sony TYPE I cassettes

Tuner section

FM stereo, FM/AM superheterodyne tuner
FM tuner section
Tuning range: 87.5 – 108.0 MHz (50-kHz step)
Antenna: FM lead antenna
Antenna terminals: 75 ohms balanced
Intermediate frequency: 10.7 MHz
AM tuner section
Tuning range
Pan-American model: 530 – 1,710 kHz (with the tuning interval set at 10 kHz) 531 – 1,710 kHz (with the tuning interval set at 9 kHz)
European model: 531 – 1,602 kHz (with the tuning interval set at 9 kHz)
Other models: 530 – 1,710 kHz (with the tuning interval set at 10 kHz) 531 – 1,602 kHz (with the tuning interval set at 9 kHz)
Antenna: AM loop antenna, external antenna terminal
Intermediate frequency: 450 kHz

— Continued on next page —

MICRO HI-FI COMPONENT SYSTEM

9-877-237-06
2005K16-1
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Sony Corporation
Personal Audio Division
Published by Sony Engineering Corporation

SONY

General

Power requirements	
North American model:	120 V AC, 60 Hz
European model:	230 V AC, 50/60 Hz
Taiwan model:	110 – 120 V AC, 60 Hz
Other models:	230 V AC, 50/60 Hz
Power consumption	
North American model:	35 watts
European model:	32 watts 0.3 watts (in the standby mode)
Other models:	32 watts
Dimensions (w/h/d)	Approx. 148 × 233 × 208 mm
Mass	Approx. 2.9 kg
Supplied accessories	Remote (1) R6 (size AA) batteries (2) AM loop antenna (1) FM lead antenna (1)

Design and specifications are subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

TABLE OF CONTENTS

1. SERVICING NOTES 3

2. GENERAL 5

3. DISASSEMBLY
3-1. Rear Cabinet 7
3-2. CD Cabinet Section 8
3-3. Front Panel Section 8
3-4. CONTROL Board, BACK LIGHT Board 9
3-5. Tape Mechanism Deck 9
3-6. Cassette Door Assy 10
3-7. MAIN Board, POWER Board 10
3-8. CD Mechanism Deck (KSM-213EDP) 11
3-9. Optical Pick-up (KSS-213E/C2N) 11

4. MECHANICAL ADJUSTMENTS 12

5. ELECTRICAL ADJUSTMENTS 13

6. DIAGRAMS 16
6-1. Block Diagram 17
6-2. Printed Wiring Board – CD Section – 18
6-3. Schematic Diagram – CD Section – 19
6-4. Printed Wiring Board – MAIN Section (COMPONENT SIDE) – 20
6-5. Printed Wiring Board – MAIN Section (CONDUCTOR SIDE) – 21
6-6. Schematic Diagram – MAIN Section – 22
6-7. Printed Wiring Board – CONTROL Section (COMPONENT SIDE) – 23
6-8. Printed Wiring Board – CONTROL Section (CONDUCTOR SIDE) – 24
6-9. Schematic Diagram – CONTROL Section – 25
6-10. Printed Wiring Board – POWER Section – 26
6-11. Schematic Diagram – POWER Section – 27
6-12. IC Pin Function Description 30

7. EXPLODED VIEWS
7-1. Overall Section 32
7-2. Front Panel Section 33
7-3. CD Cabinet Section 34
7-4. Optical Pick-up Block (KSM-213EDP) 35

8. ELECTRICAL PARTS LIST 36

SECTION 1
SERVICING NOTES

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

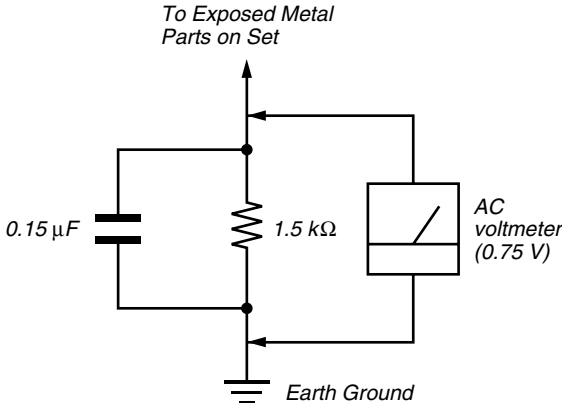


Fig. A. Using an AC voltmeter to check AC leakage.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the exterior.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

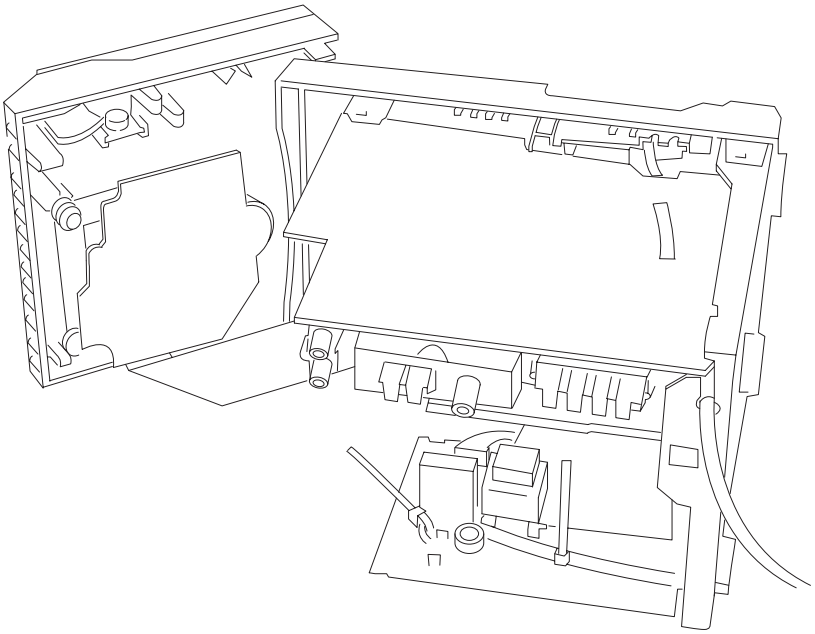
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

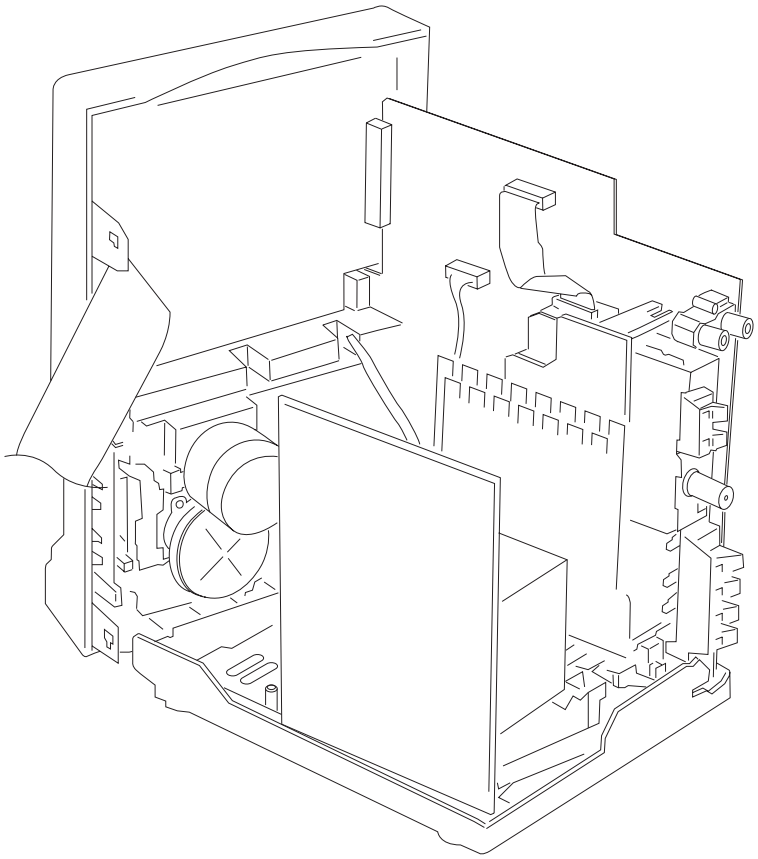
LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the "S curve check" in "CD section adjustment" and check that the S curve waveforms is output three times.

Service Position of the CD Mechanism Deck



Service Position of the Tape Cassette Mechanism Deck



SECTION 2
GENERAL

This section is extracted from instruction manual.

List of button locations and reference pages

How to use this page

Use this page to find the location of buttons and other parts of the system that are mentioned in the text.

Illustration number
↓
DISPLAY 23 (9, 14)
↑ Name of button/part ↑ Reference page

Main unit

ALPHABETICAL ORDER

A – M

BASS/TREBLE 5 (12)
Cassette compartment 11
DISPLAY 23 (9, 14)
Display window 2
DSG 4 (12)
MD 6 (15)

P – Z

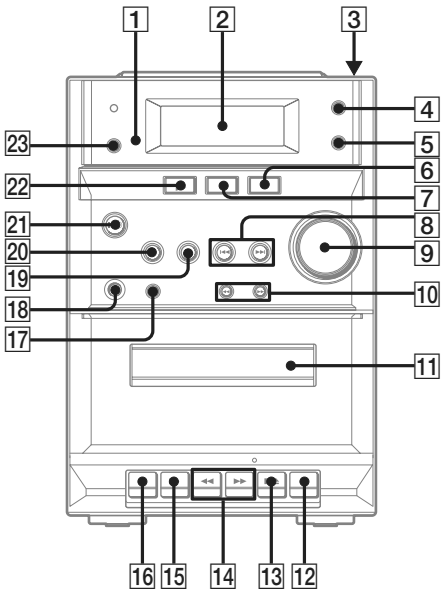
PHONES jack 18
PLAY MODE 17 (6, 7)
PRESET +/– 8 (9)
Remote sensor 1
TUNER BAND 7 (8, 9)
TUNING +/– 10 (8, 9)
VOLUME 9 (13)

BUTTON DESCRIPTIONS

I/⏻ (power) 21 (5, 9, 13)
◀◀/▶▶ (fast forward/rewind) 10 (6)
I◀◀/▶▶I (go back/go forward) 8 (5, 6, 7, 12, 13)
■ (stop) 19 (6, 7, 11, 17)
❚❚ (pause) 20 (6)
CD ► (play) 22 (6, 7, 11)
⏏ PUSH OPEN/CLOSE (open/close) 3 (6)

TAPE

◀◀/▶▶ (fast forward/rewind) 14 (10)
■⏏ (stop/eject) 13 (10, 11)
❚❚ (pause) 12 (10, 11)
► (play) 15 (10)
● (record) 16 (11)



Remote control

ALPHABETICAL ORDER

A – M

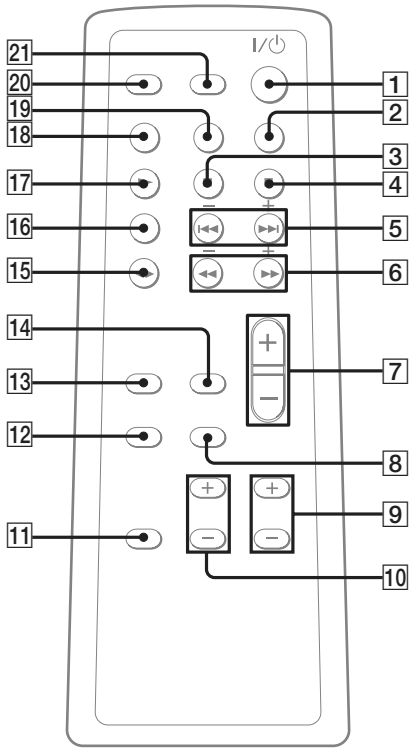
BASS +/– 10 (12)
CLEAR 8 (8, 9)
CLOCK/TIMER SELECT 20 (13)
CLOCK/TIMER SET 21 (5, 13)
DISPLAY 2 (9, 14)
DSG 11 (12)
MD 18 (15)

P – Z

PLAY MODE/DIRECTION 13 (6, 7)
PRESET +/– 5 (9)
REPEAT/FM MODE 14 (7, 9)
SLEEP 19 (12)
TREBLE +/– 9 (12)
TUNER BAND 16 (8, 9)
TUNER MEMORY 12 (8)
TUNING +/– 6 (8, 9)
VOL +/– 7 (13)

BUTTON DESCRIPTIONS

I/⏻ (power) 1 (5, 9, 13)
◀◀/▶▶ (fast forward/rewind) 6 (6)
I◀◀/▶▶I (go back/go forward) 5 (5, 6, 7, 13)
■ (stop) 4 (6, 7, 11, 17)
❚❚ (pause) 3 (6)
CD ► (play) 17 (6, 7, 11)
TAPE ◀► 15 (10)



Setting the clock

1 Press I/⏻ to turn on the system.

2 Press CLOCK/TIMER SET.

3 Press I◀◀/▶▶I repeatedly to set the hour.

4 Press CLOCK/TIMER SET.

5 Press I◀◀/▶▶I repeatedly to set the minute.

6 Press CLOCK/TIMER SET.

The clock starts working.

To adjust the clock

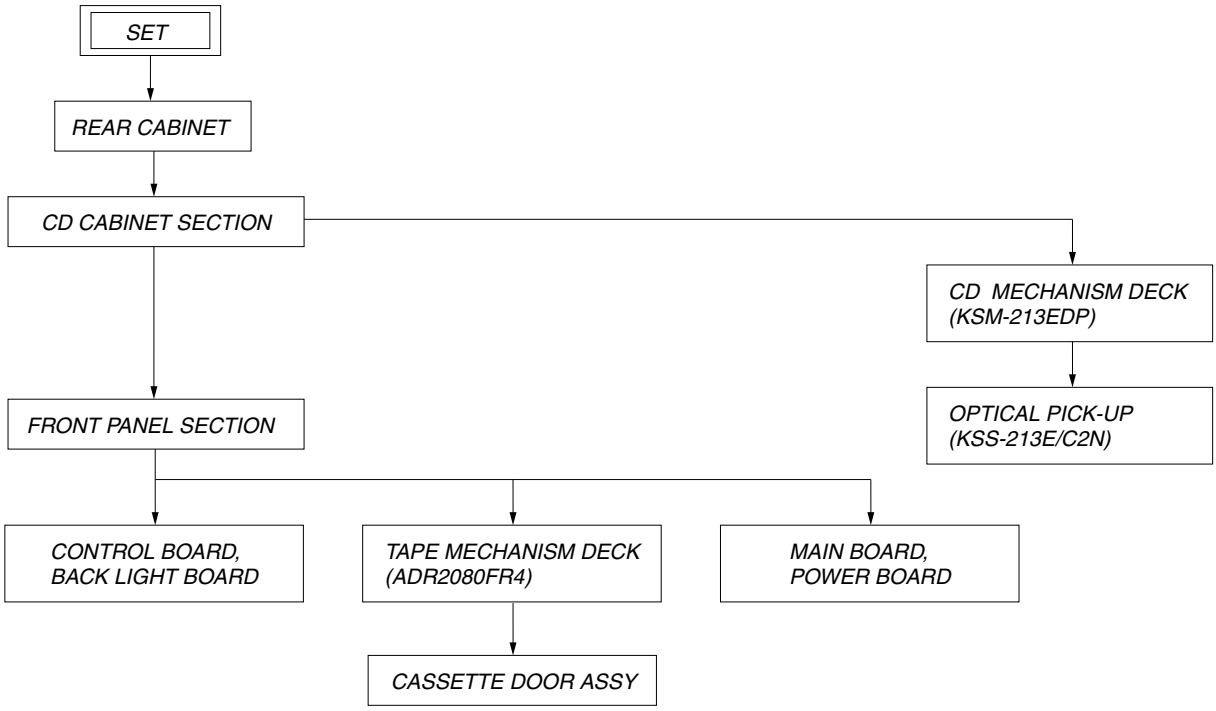
1 Press CLOCK/TIMER SET.

2 Press I◀◀/▶▶I to select the clock display, then press CLOCK/TIMER SET.

3 Do the same procedures as step 3 to 6 above.

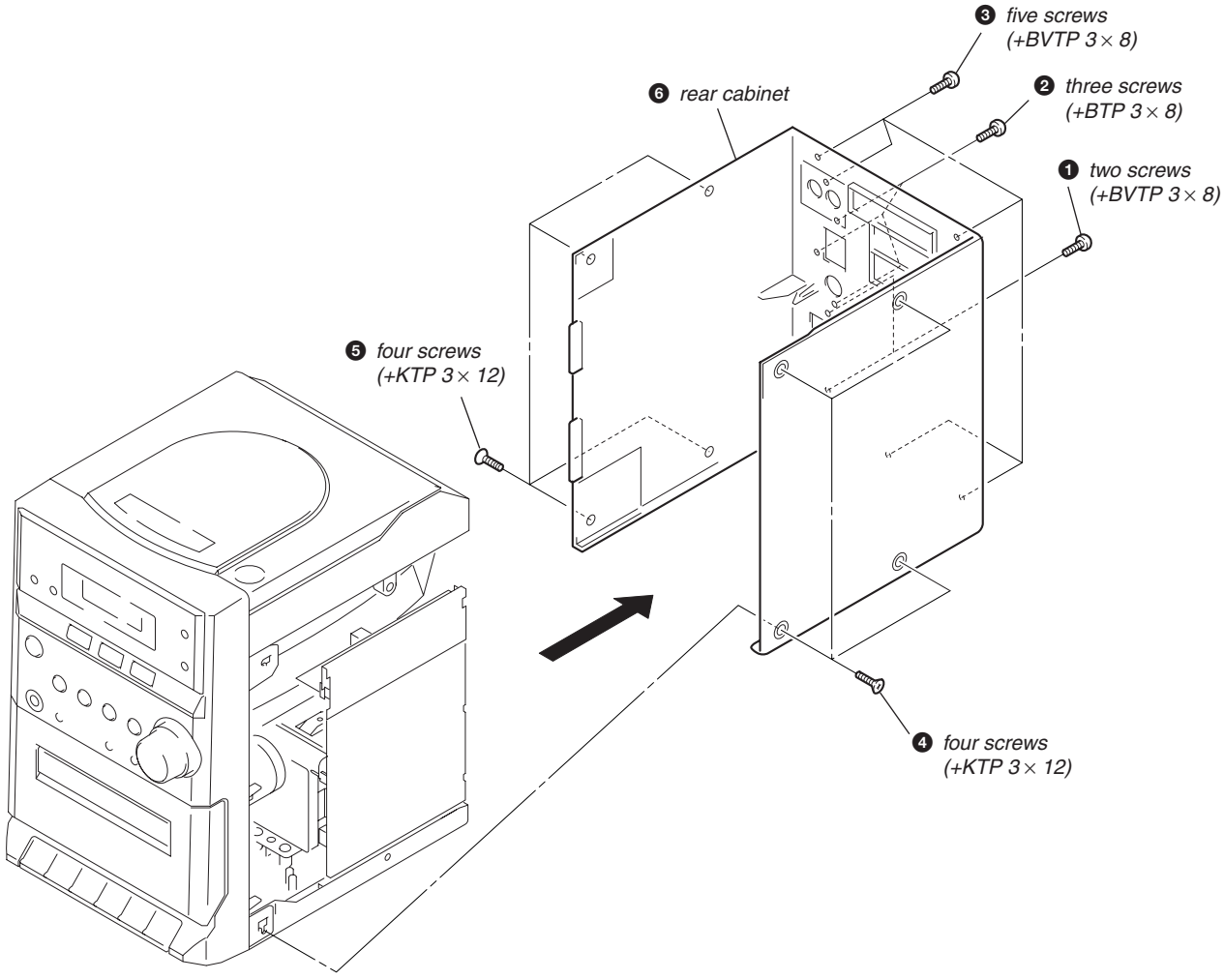
SECTION 3
DISASSEMBLY

• This set can be disassembled in the order shown below.

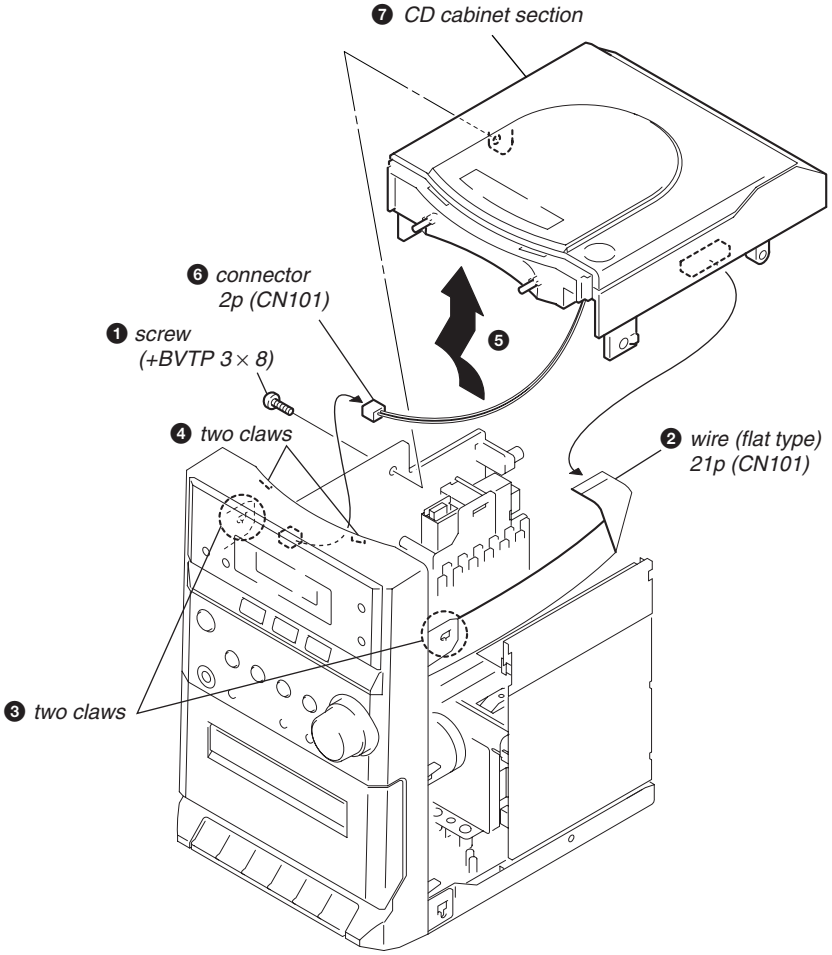


Note: Follow the disassembly procedure in the numerical order given.

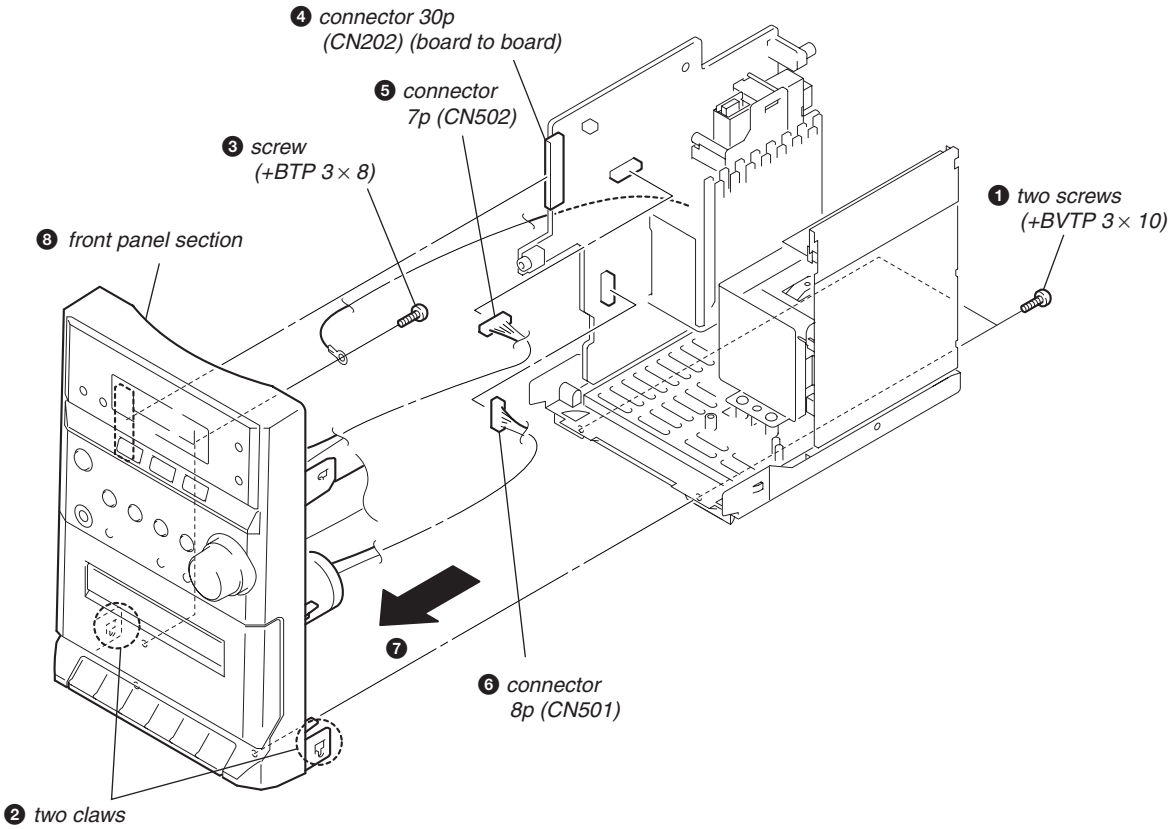
3-1. Rear Cabinet



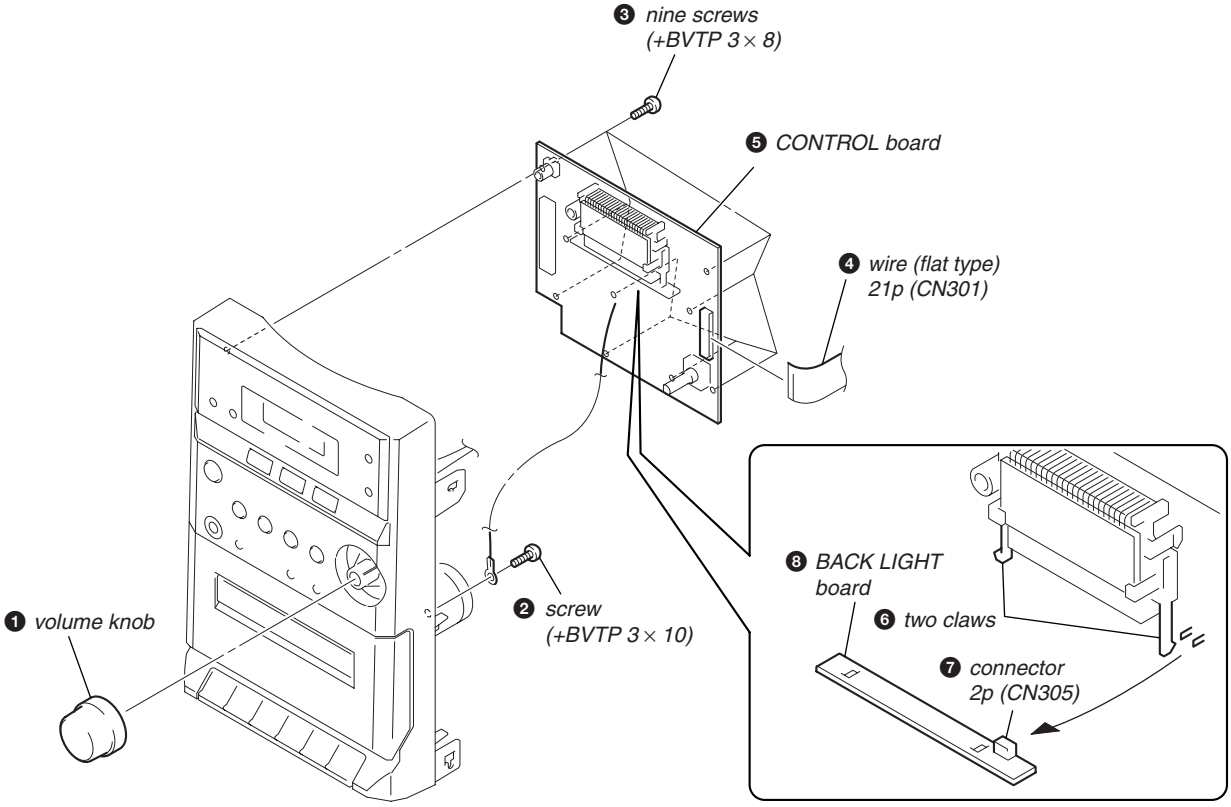
3-2. CD Cabinet Section



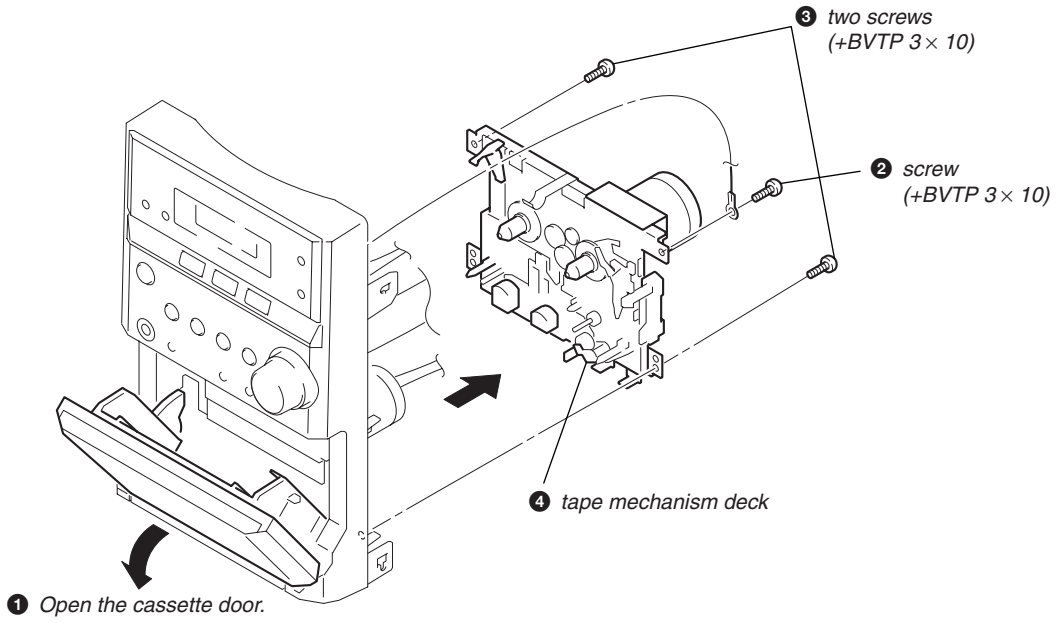
3-3. Front Panel Section



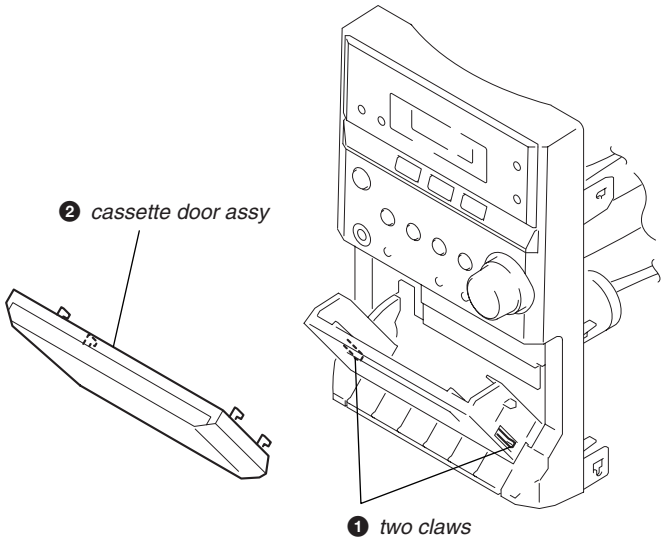
3-4. CONTROL Board, BACK LIGHT Board


❸ nine screws (+BVTP 3× 8)
❺ CONTROL board
❹ wire (flat type) 21p (CN301)
❶ volume knob
❷ screw (+BVTP 3× 10)
❽ BACK LIGHT board
❻ two claws
❼ connector 2p (CN305)

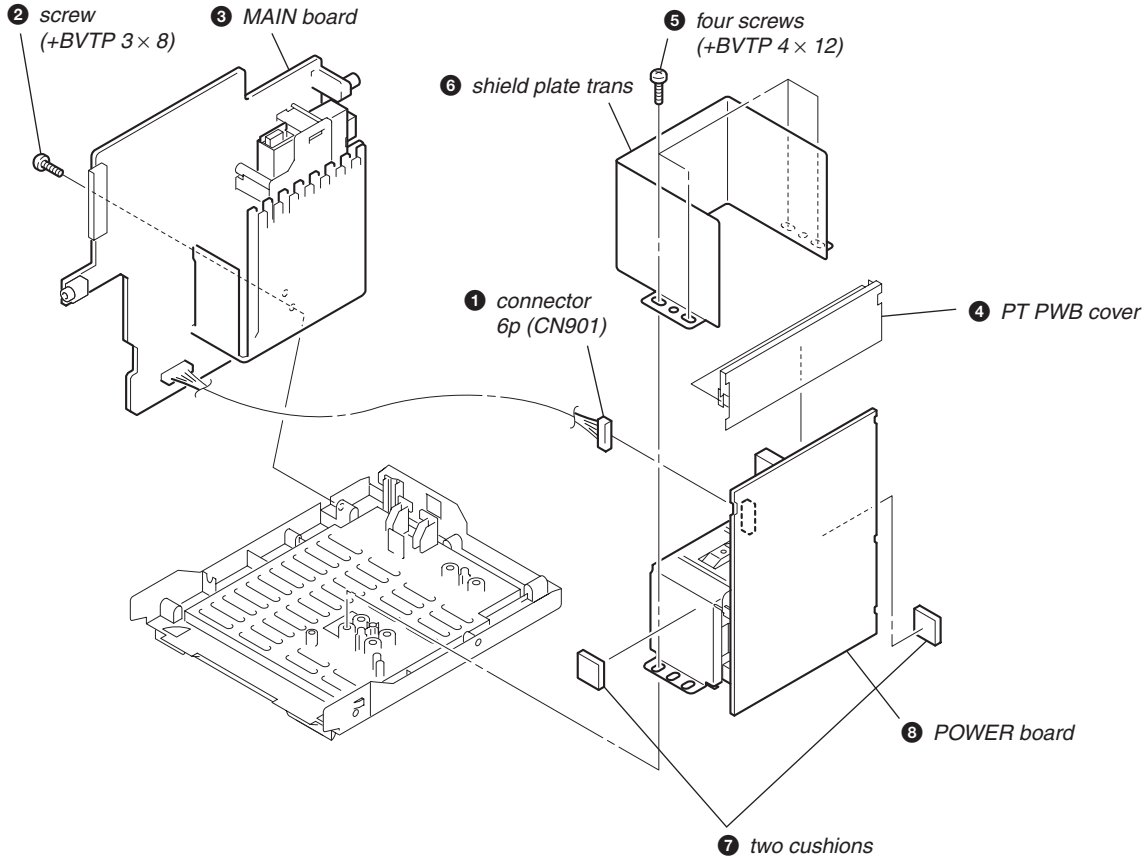
3-5. Tape Mechanism Deck



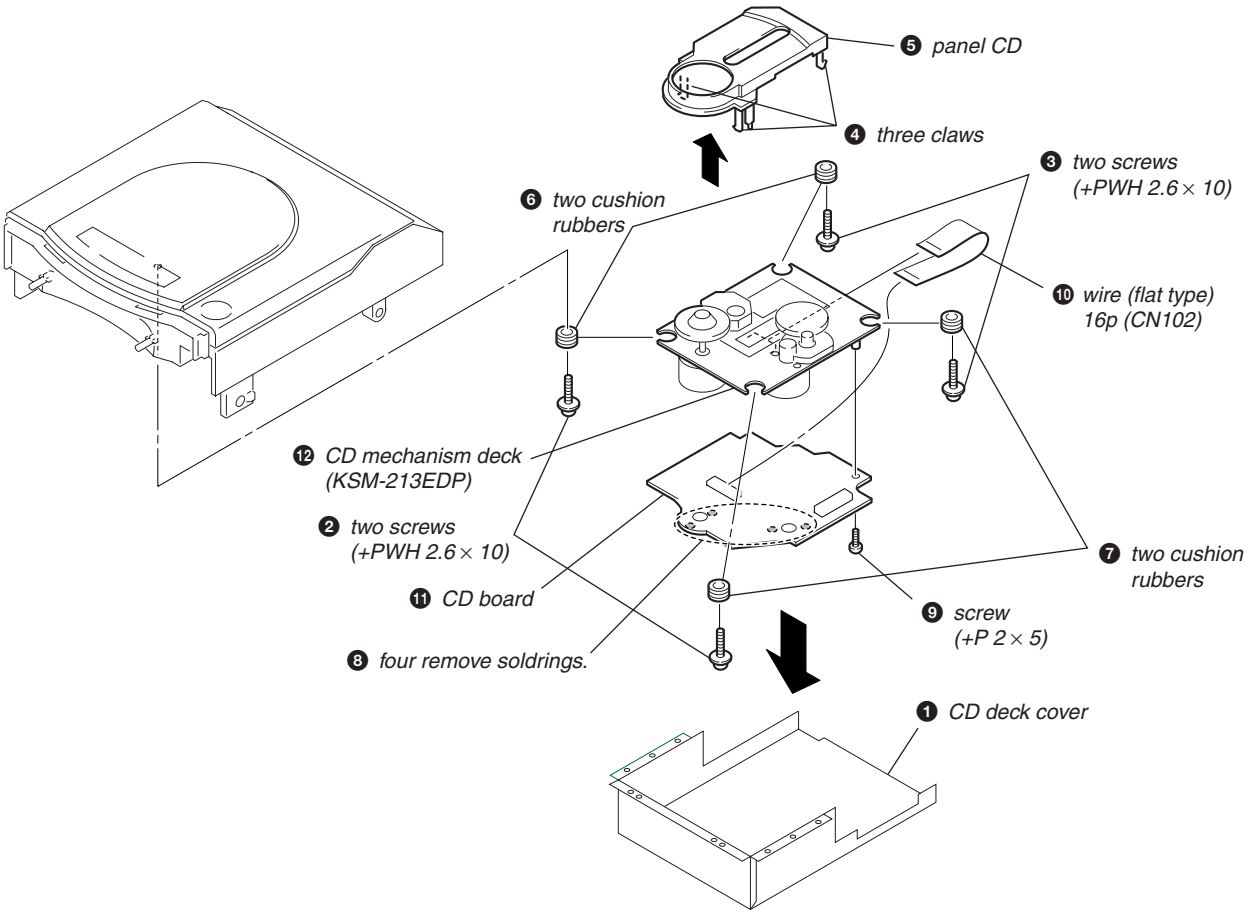
3-6. Cassette Door Assy



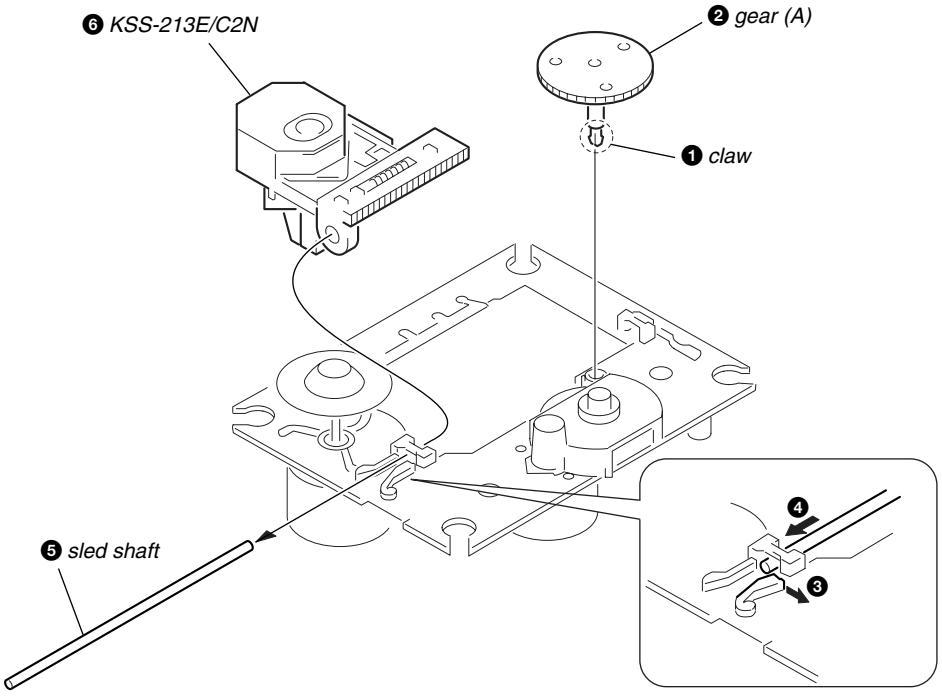
3-7. MAIN Board, POWER Board


❷ screw (+BVTP 3× 8)
❸ MAIN board
❺ four screws (+BVTP 4× 12)
❻ shield plate trans
❶ connector 6p (CN901)
❹ PT PWB cover
❽ POWER board
❼ two cushions

3-8. CD Mechanism Deck (KSM-213EDP)


❺ panel CD
❹ three claws
❸ two screws (+PWH 2.6× 10)
❻ two cushion rubbers
❿ wire (flat type) 16p (CN102)
⓬ CD mechanism deck (KSM-213EDP)
❷ two screws (+PWH 2.6× 10)
⓫ CD board
❽ four remove soldrings.
❼ two cushion rubbers
❾ screw (+P 2× 5)
❶ CD deck cover

3-9. Optical Pick-up (KSS-213E/C2N)



SECTION 4
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback heads, erase head, capstan, pinch rollers, rubber belts, idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	2.94 – 7.84 mN • m (30 to 79 g • cm) (0.42 – 1.11 oz • inch)
FWD back tension	CQ-102C	0.15 – 0.59 mN • m (2 to 6 g • cm) (0.03 – 0.08 oz • inch)
REV	CQ-102RC	0.15 – 0.59 mN • m (2 to 6 g • cm) (0.03 – 0.08 oz • inch)
REV back tension	CQ-102RC	0.15 – 0.59 mN • m (2 to 6 g • cm) (0.03 – 0.08 oz • inch)
FF/REW	CQ-201B	6.86 – 17.64 mN • m (70 to 179 g • cm) (0.98 – 2.49 oz • inch)
FWD tension	CQ-403A	9.8 mN • m or more (100 g • cm or more) (1.4 oz • inch or more)
REV tension	CQ-403R	9.8 mN • m or more (100 g • cm or more) (1.4 oz • inch or more)

SECTION 5
ELECTRICAL ADJUSTMENTS

DECK SECTION **0 dB=0.775V**

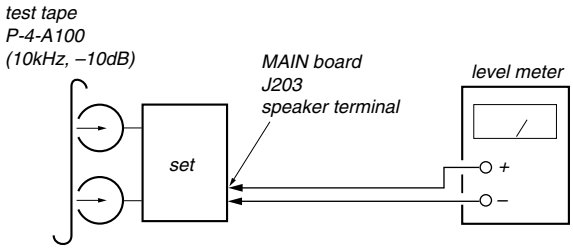
1. Demagnetize the record/playback head with a head demagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.
7. Switches and controls should be set as follows unless otherwise specified.

Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment

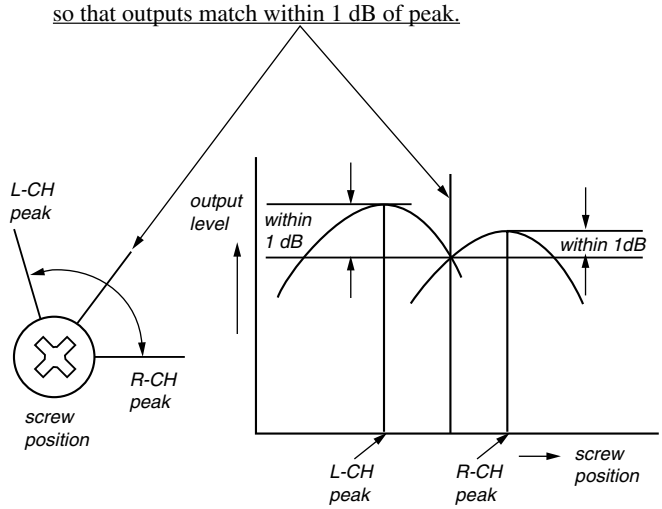
[Record/Playback Head Azimuth Adjustment]

Procedure:

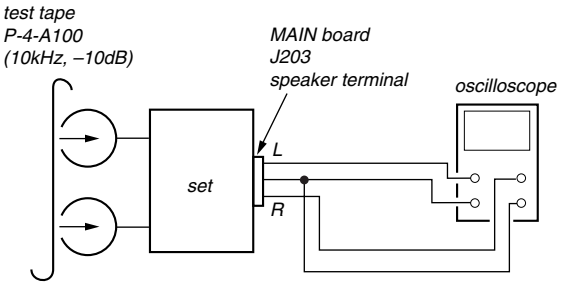
1. Mode : Playback

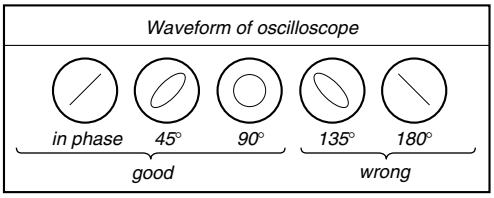


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



3. Mode: Playback





4. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location: Record/Playback/Erase Head

[Tape Speed Check]

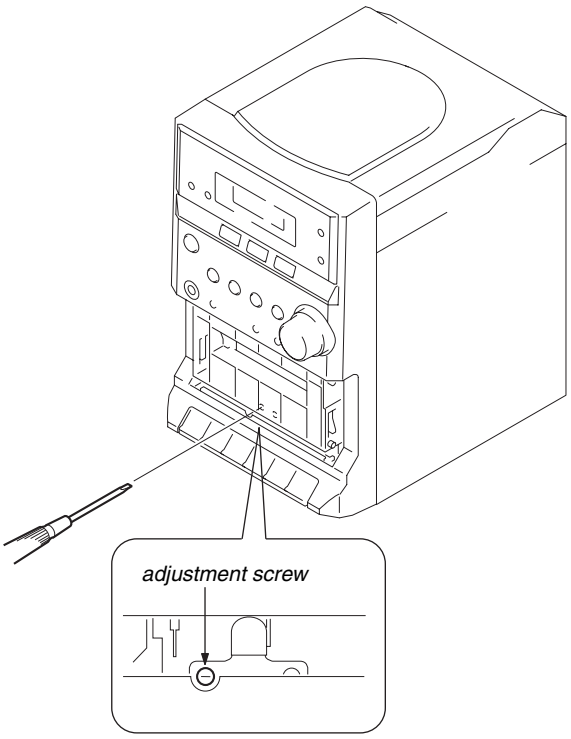
Procedure:

1. Turn the power on.
2. Insert the WS-48B into deck.
3. Press the ► button of deck.
4. Check the reading of frequency counter becomes 3000 ± 90 Hz.

Sample Value of Wow and flutter

W.RMS (JIS) less than 0.3%
(test tape: WS-48B)

Adjustment Location: Record/Playback Head.



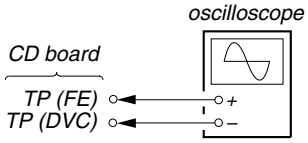
Note: Refer to "3-6. Cassette Door Assy" (see page 10)

CD SECTION

Note:
1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

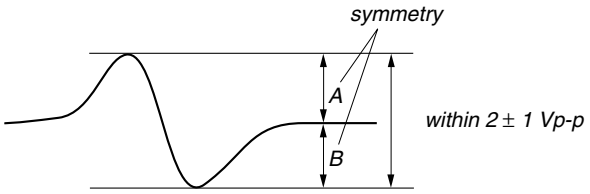
S-curve Check

Connection:



Procedure:
1. Connect an oscilloscope to test point TP (FE) and TP (DVC) on the CD board.
2. Turn the power on.
3. Put the disc (YEDS-18) in and turned power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out)
4. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 2 ± 1 Vp-p.

S-curve waveform

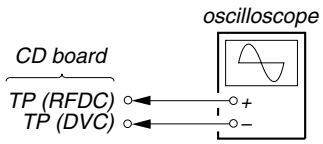


Note: • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

Checking Location: CD board (Conductor side)

RFDC Level Check

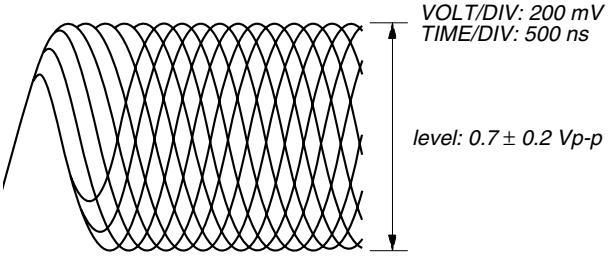
Connection:



Procedure:
1. Connect an oscilloscope to test point TP (RFDC) and TP (DVC) on the CD board.
2. Turn the power on.
3. Put the disc (YEDS-18) in to playback the number five track.
4. Confirm that oscilloscope waveform is clear and check RFDC signal level is correct or not.

Note: A clear RFDC signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

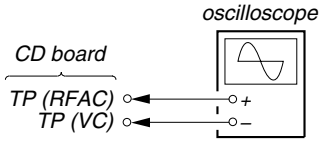
RFDC signal waveform



Checking Location: CD board (Conductor side)

RFAC Level Check

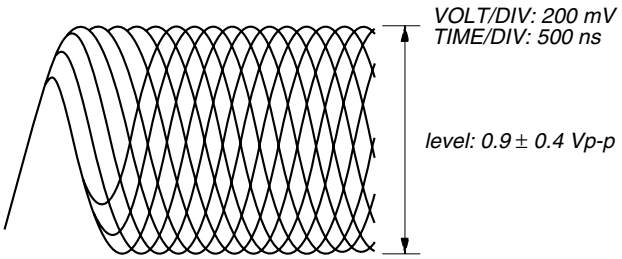
Connection:



Procedure:
1. Connect an oscilloscope to test point TP (RFAC) and TP (VC) on the CD board.
2. Turn the power on.
3. Put the disc (YEDS-18) in to playback the number five track.
4. Confirm that oscilloscope waveform is clear and check RFAC signal level is correct or not.

Note: A clear RFAC signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

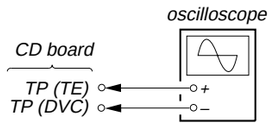
RFAC signal waveform



Checking Location: CD board (Conductor side)

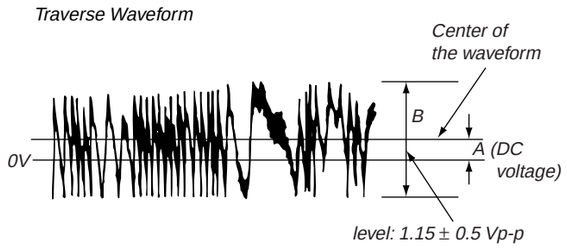
E-F Balance Check

Connection:



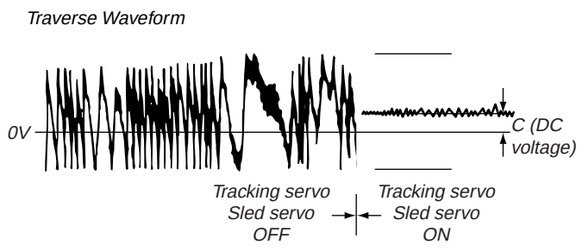
Procedure:

1. Connect an oscilloscpe to test point TP (TE) and TP (DVC) on the CD board.
2. AC is put in pushing CD ► button.
3. FL tube carries out all lights and goes into CD test mode.
4. Put the disc (YEDS-18) in to playback the number five track.
5. Press the CD ► button. (The tracking servo and the sledding servo are turned OFF)
6. Check the level B of the oscilliscope's waveform and the A (DC voltage) of the center of the Traverse waveform.
   Confirm the following :
   A/B x 100 = less than ± 22%



7. Press the CD ► button. (The tracking servo and sledding servo are turned ON)
   Confirm the C (DC voltage) is almost equal to the A (DC voltage) is step 4.
8. To exit from this mode, turn the power off.

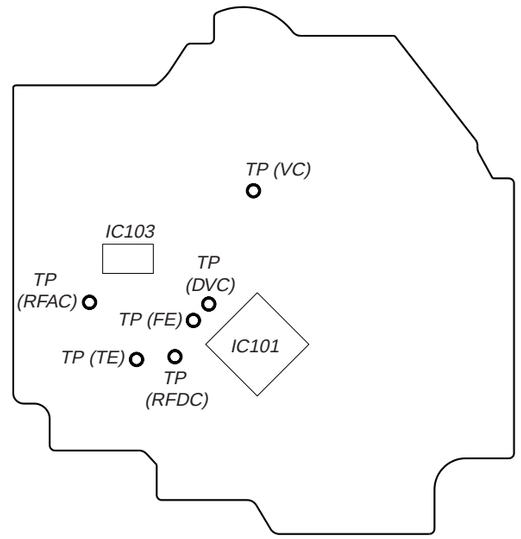
Notes:
- Always move the optical pick-up to most inside track when exiting from this mode. Otherwise, a disc will not be unloaded.
- Do not run the sled motor excessively, otherwise the gear can be chipped.



Checking Location: CD board (Conductor side)

Checking Location:

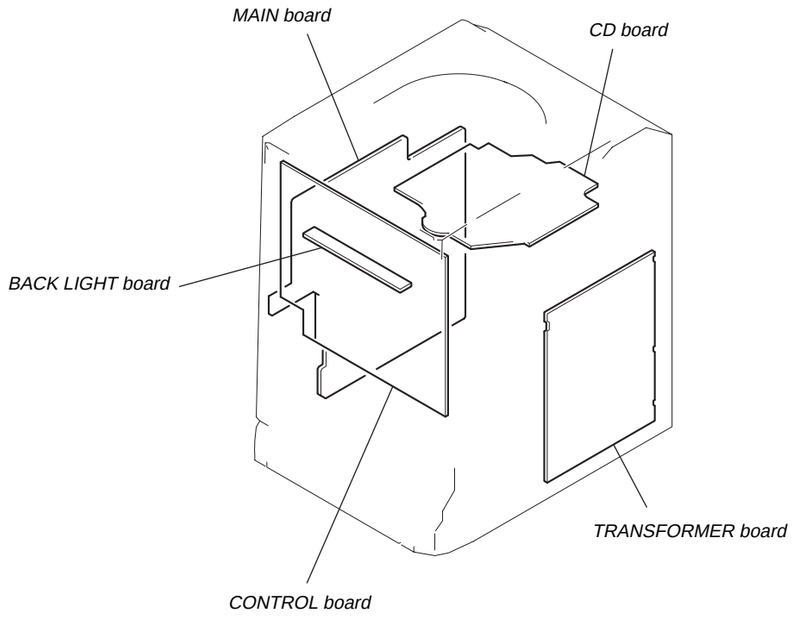
– CD BOARD (Conductor Side) –



15

SECTION 6
DIAGRAMS

• Circuit Boards Location



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.
- : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

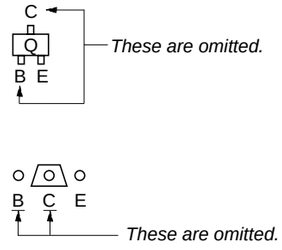
- : B+ Line.
- : B– Line.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Abbreviation
  CND : Canadian model
- Signal path.
  : TUNER (FM)
  : CD
  : MD
  : PB (TAPE)
  : REC (TAPE)

For printed wiring boards.

Note:

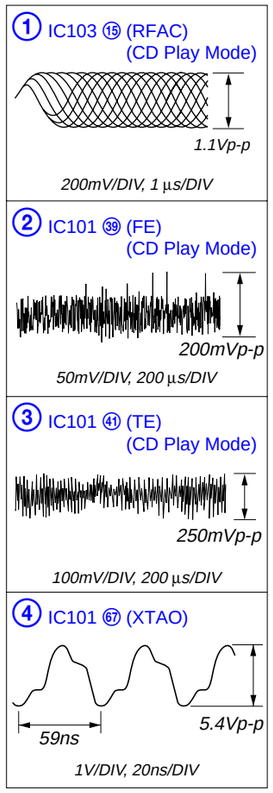
- : parts extracted from the component side.
- : parts extracted from the conductor side.
- △ : internal component.
- : Pattern from the side which enables seeing.

• Indication of transistor

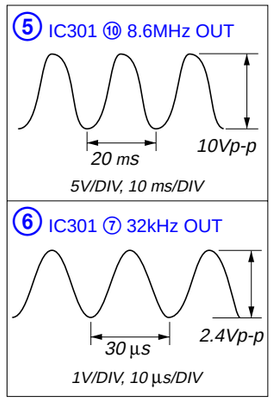


• Waveforms

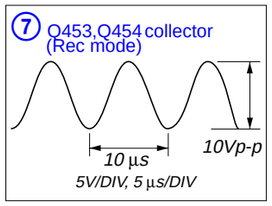
– CD Board –



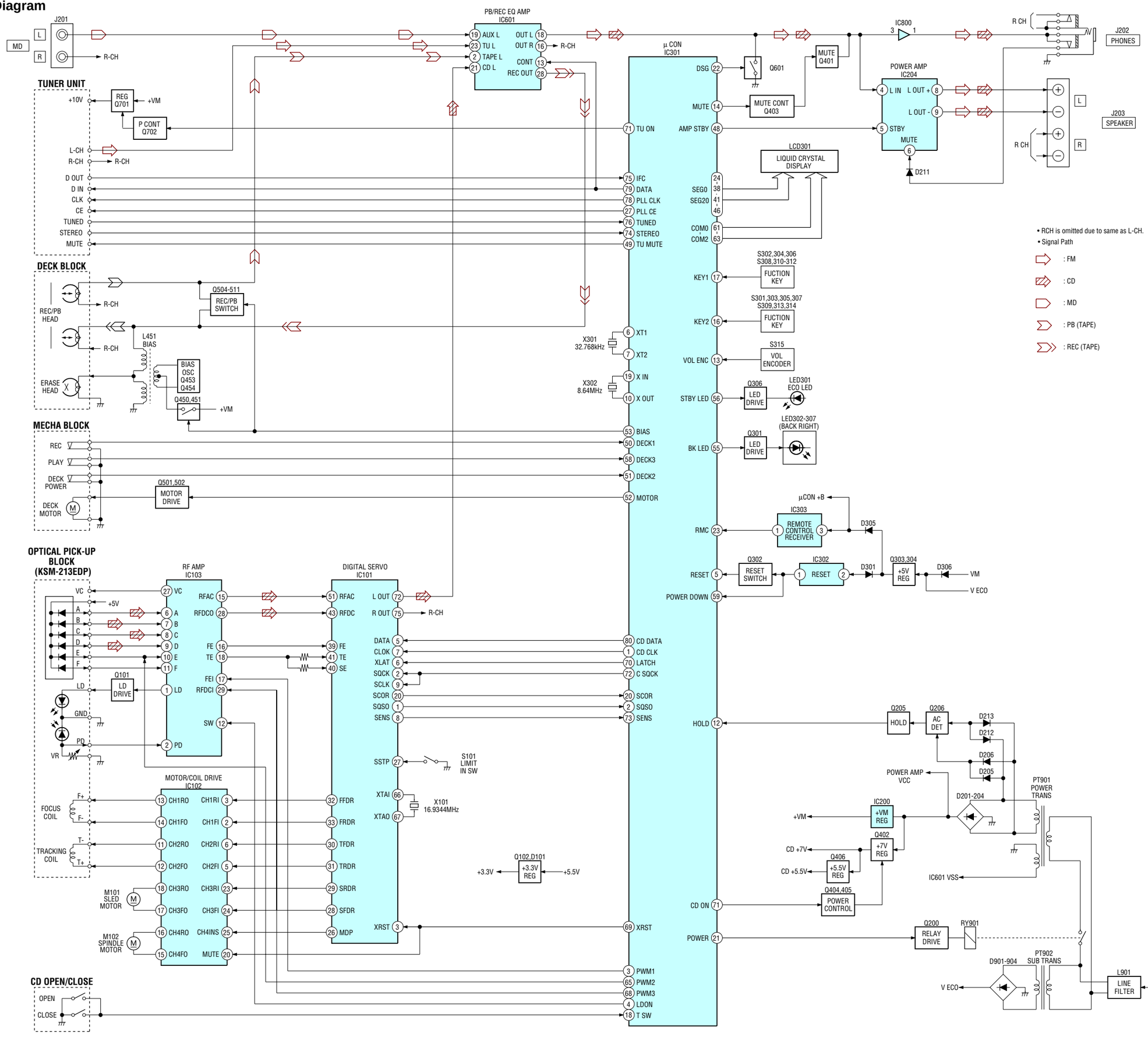
– CONTROL Board –



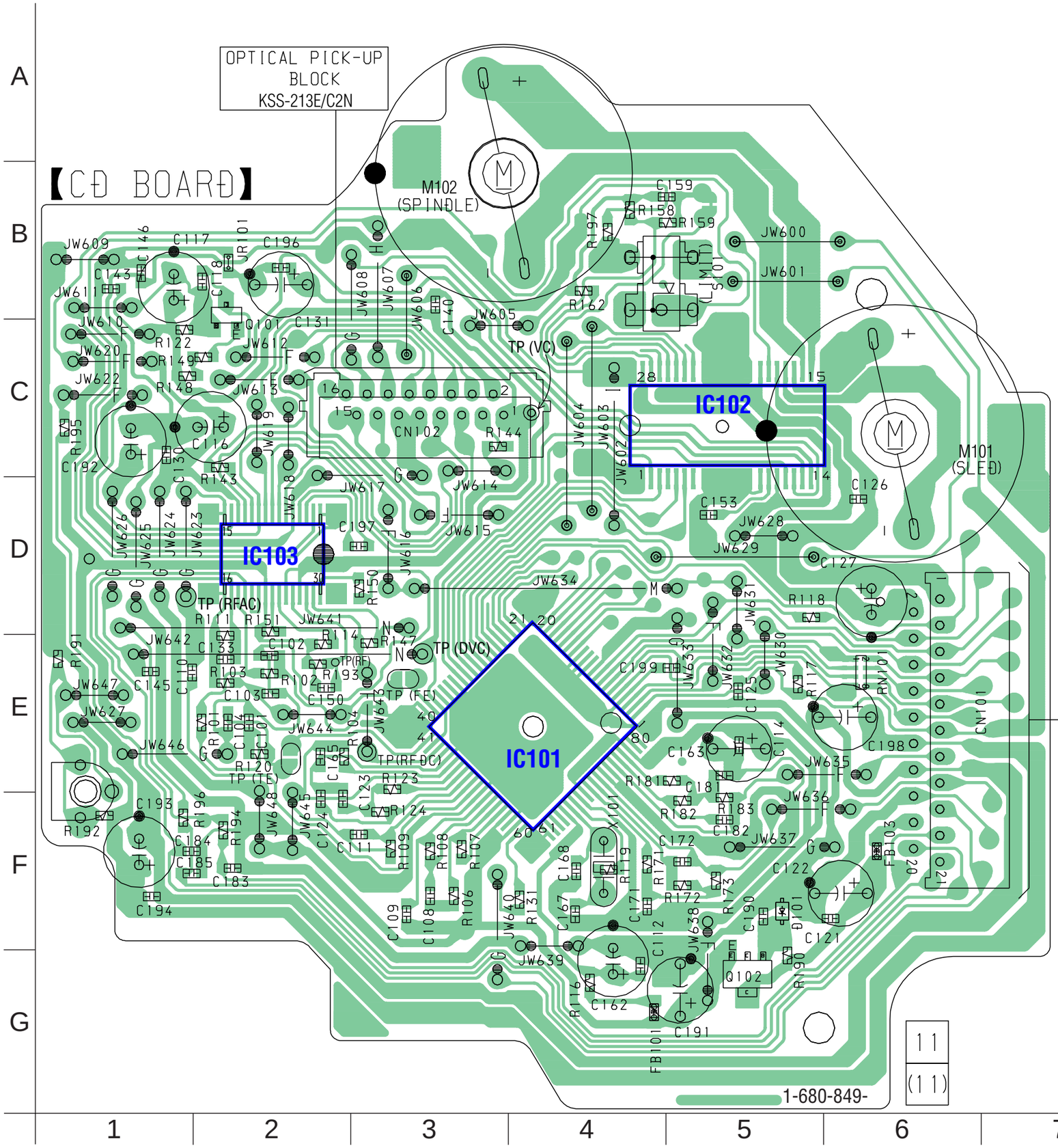
– MAIN Board –



6-1. Block Diagram



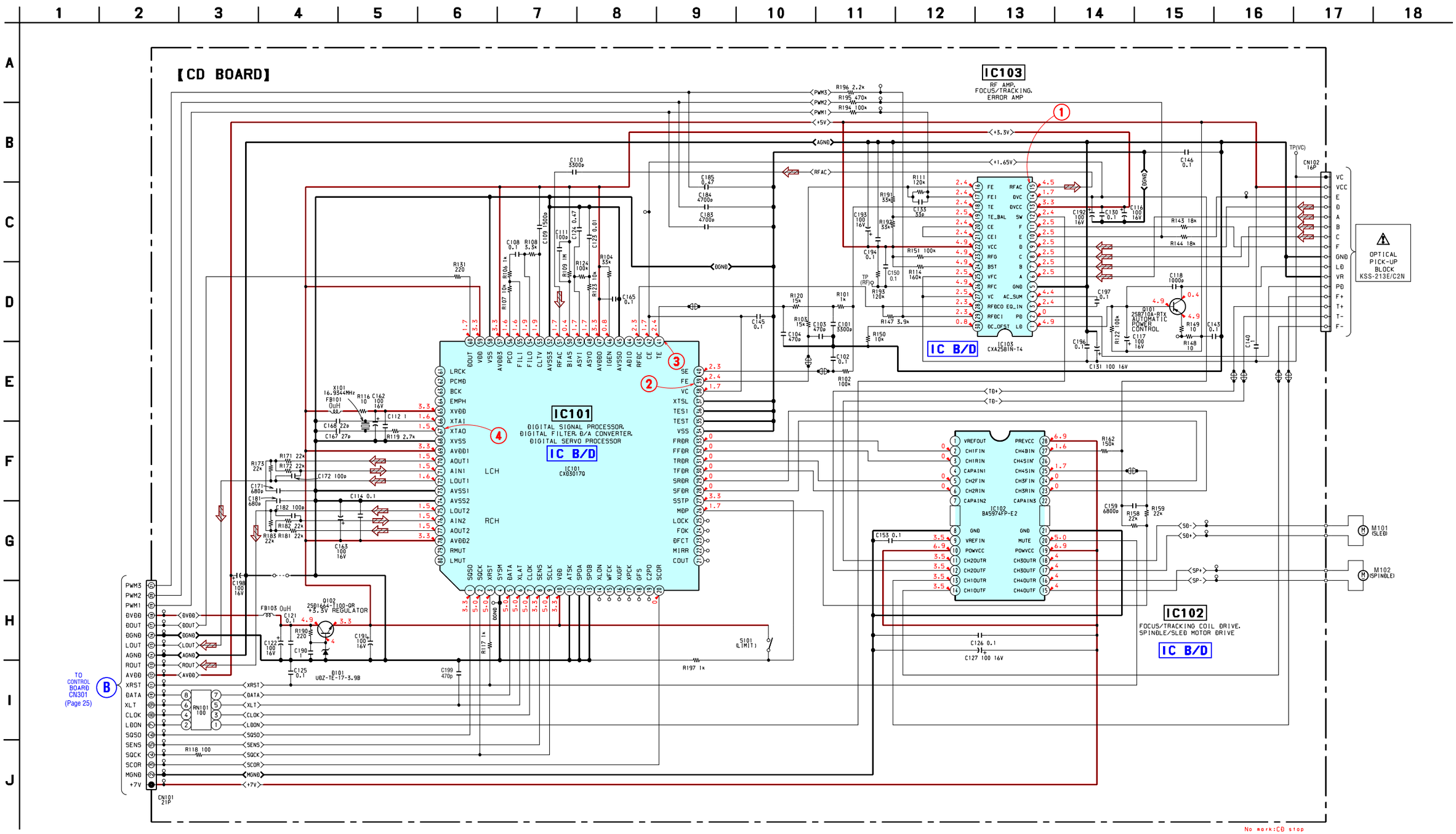
6-2. Printed Wiring Board – CD Section – • See page 16 for Circuit Boards Location.



• **Semiconductor Location**

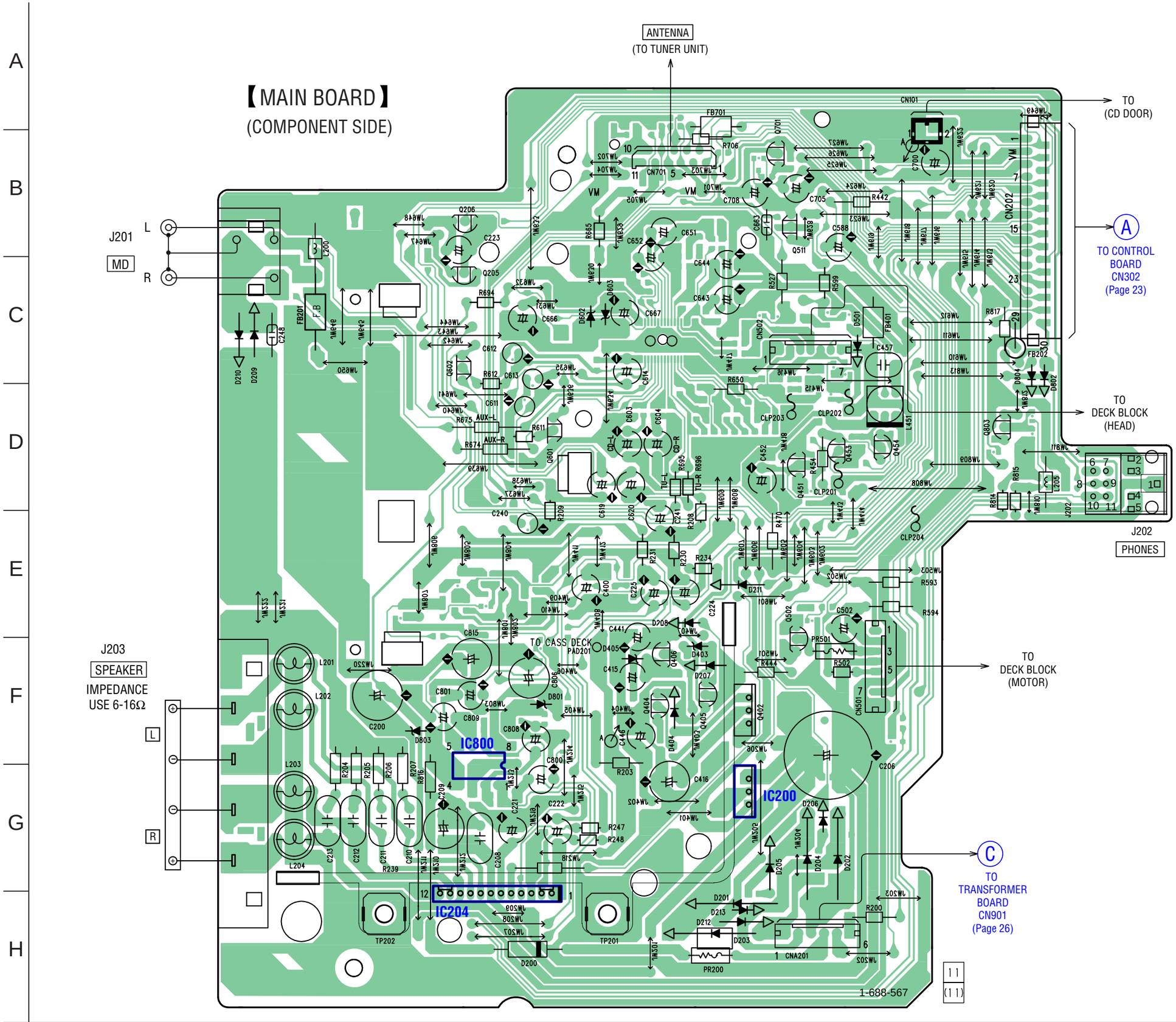
Ref. No.	Location
D101	F-5
IC101	E-4
IC102	C-5
IC103	D-2
Q101	C-2
Q102	G-5

6-3. Schematic Diagram – CD Section – • See page 16 for Waveforms. • See page 28 for IC Block Diagrams.



6-4. Printed Wiring Board – MAIN Section (COMPONENT SIDE) –

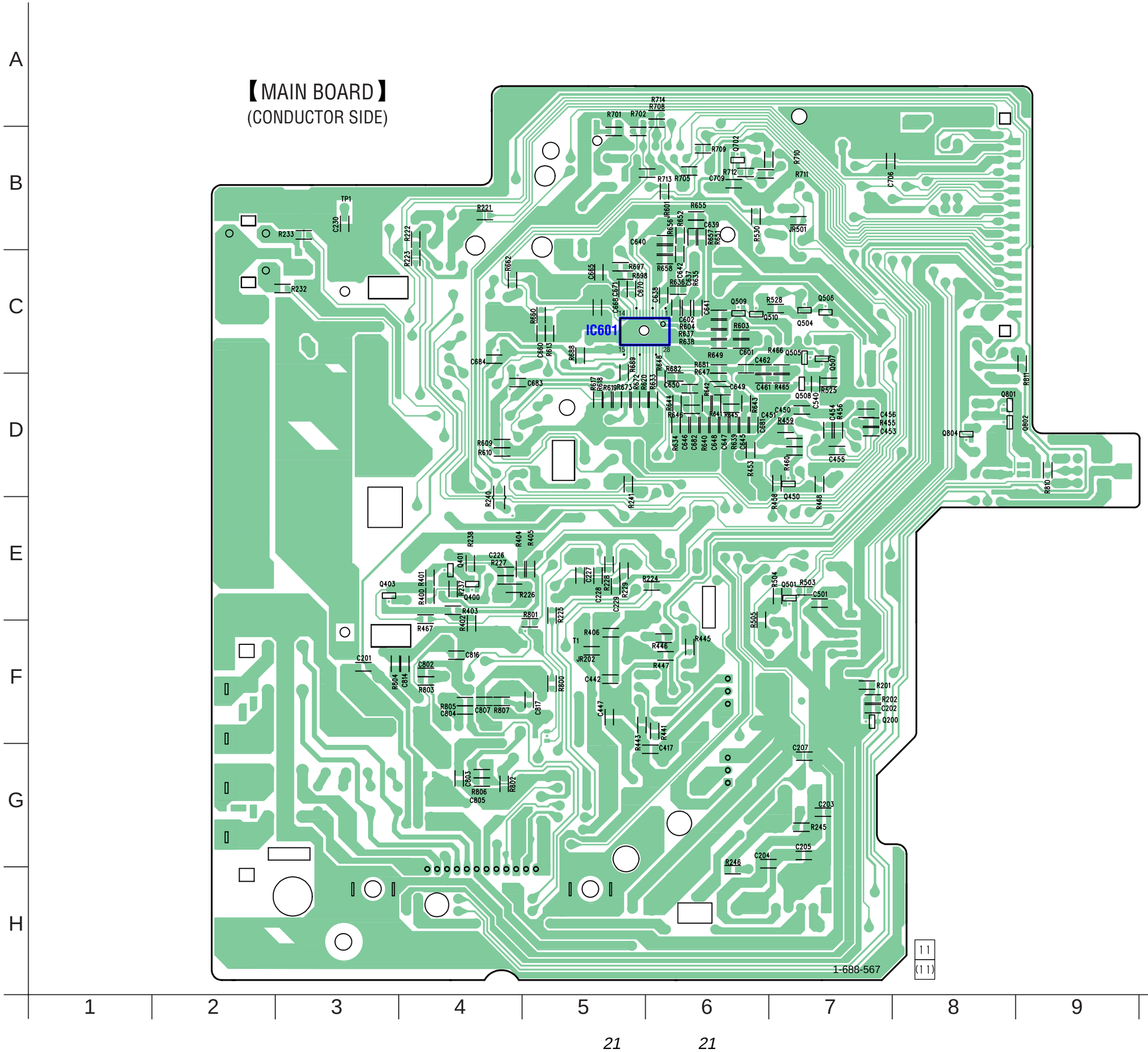
• See page 16 for Circuit Boards Location.



• **Semiconductor Location**

Ref. No.	Location
D200	H-4
D201	H-6
D202	G-7
D203	H-6
D204	G-7
D205	G-6
D206	G-7
D207	F-6
D209	C-2
D210	C-2
D211	E-6
D212	H-6
D213	H-6
D403	F-6
D404	F-6
D405	F-5
D501	C-7
D602	C-5
D603	C-5
D801	F-4
D802	D-9
D803	F-3
D804	D-8
IC200	G-6
IC204	H-4
IC800	F-4
Q205	C-4
Q206	B-4
Q402	F-6
Q404	F-6
Q405	F-6
Q406	F-5
Q451	D-6
Q453	D-7
Q454	D-7
Q502	F-6

6-5. Printed Wiring Board – MAIN Section (CONDUCTOR SIDE) – • See page 16 for Circuit Boards Location.

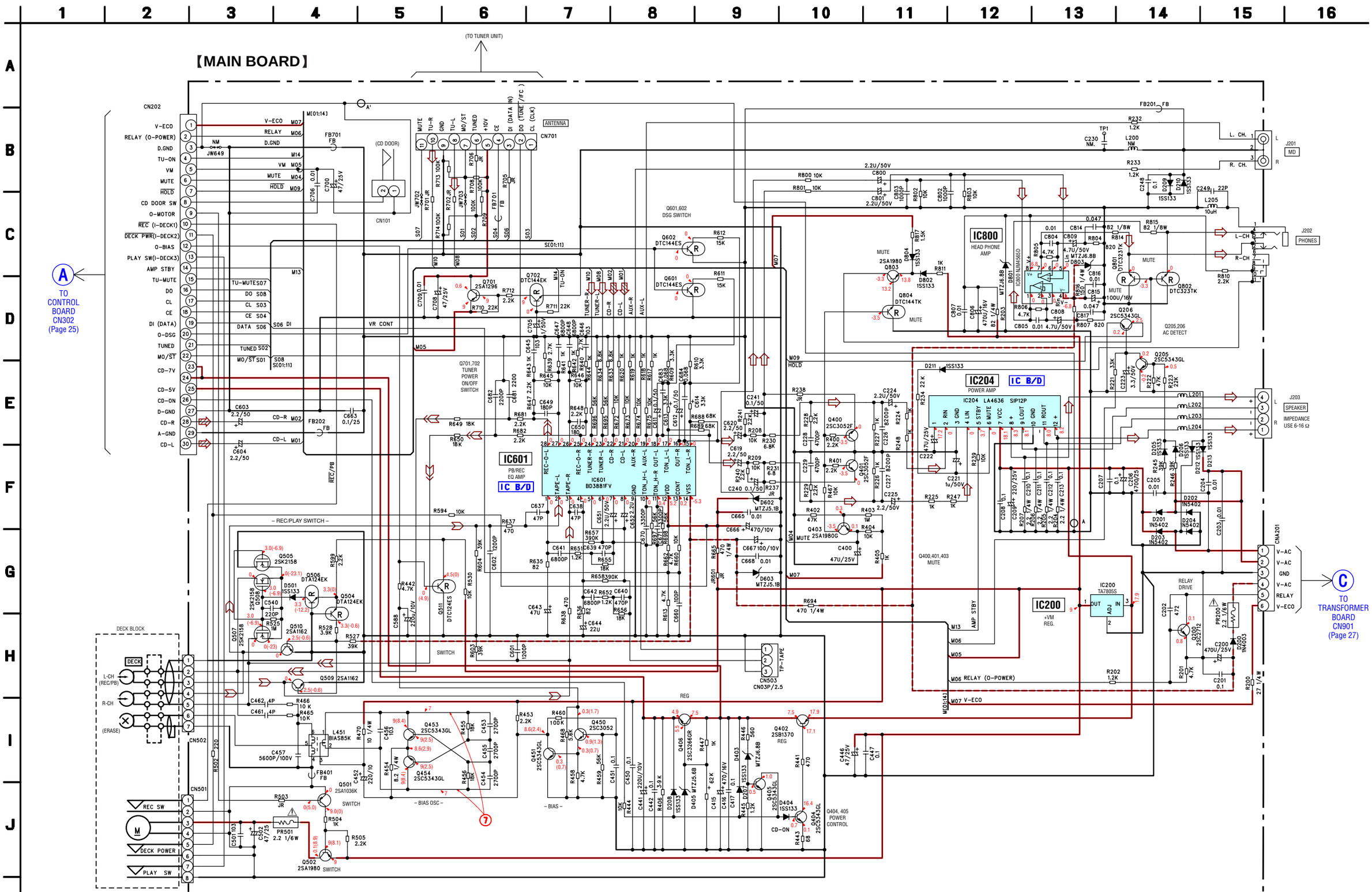


• **Semiconductor Location**

Ref. No.	Location
IC601	C-5
Q200	F-7
Q400	E-4
Q401	E-4
Q403	E-3
Q450	D-7
Q501	E-7
Q504	C-7
Q505	D-7
Q506	C-7
Q507	C-7
Q508	D-7
Q509	C-6
Q510	C-7
Q702	B-6
Q801	D-8
Q802	D-8
Q804	D-8

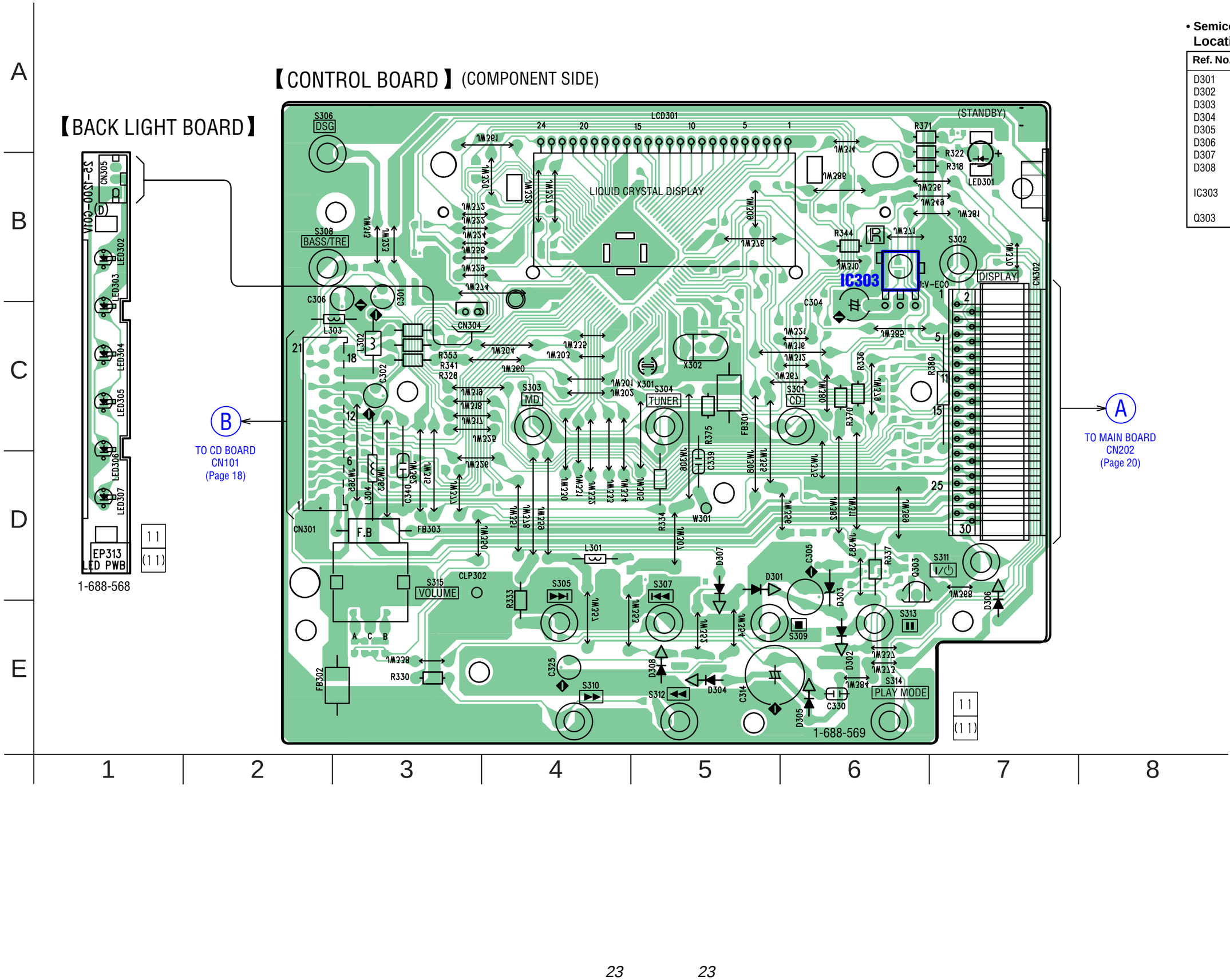
6-6. Schematic Diagram – MAIN Section –

• See page 16 for Waveform. • See page 29 for IC Block Diagram.



6-7. Printed Wiring Board – CONTROL Section (COMPONENT SIDE) –

• See page 16 for Circuit Boards Location.

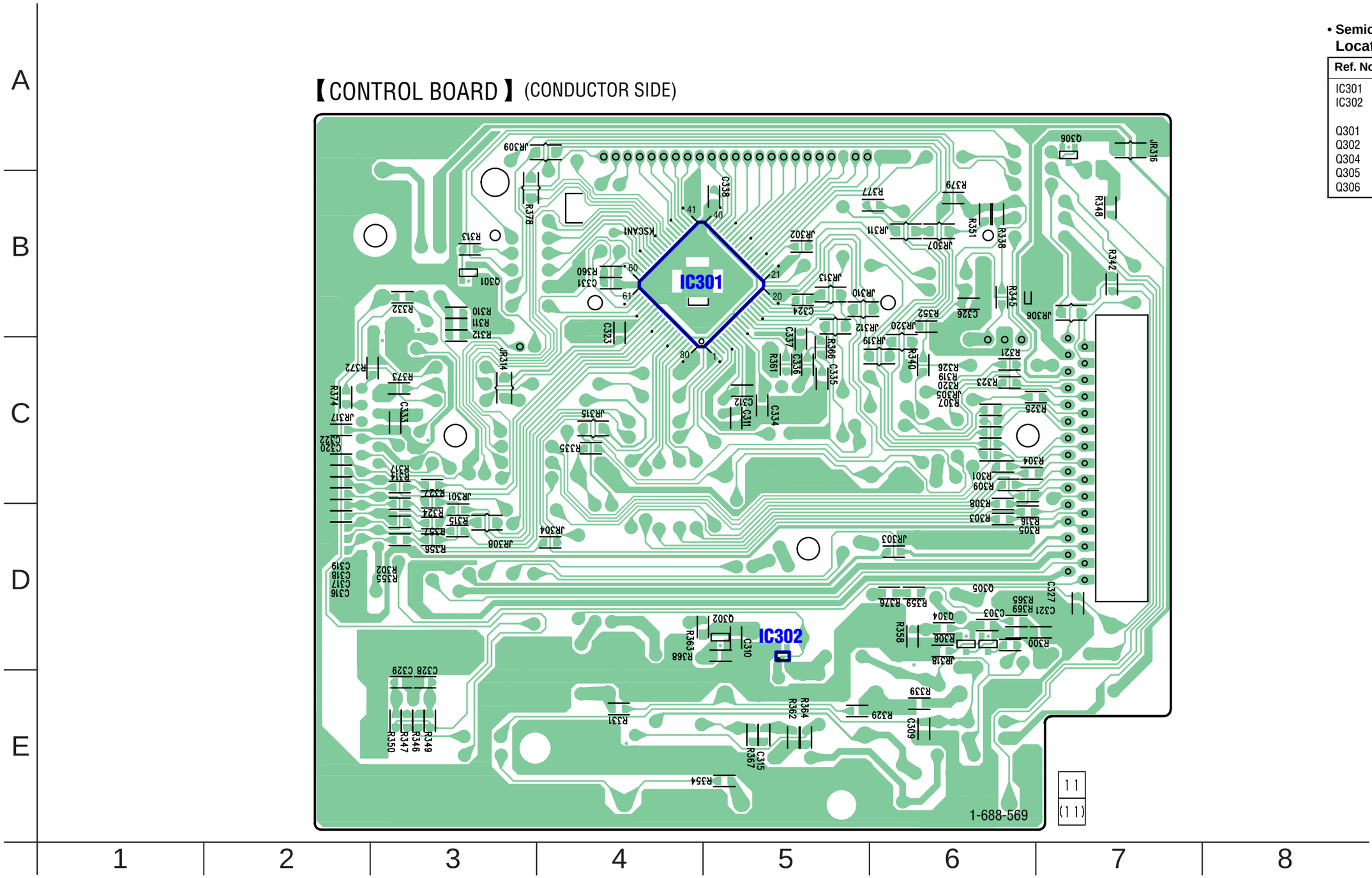


• **Semiconductor Location**

Ref. No.	Location
D301	D-5
D302	E-6
D303	D-6
D304	E-5
D305	E-6
D306	D-7
D307	D-5
D308	E-5
IC303	B-6
Q303	D-6

6-8. Printed Wiring Board – CONTROL Section (CONDUCTOR SIDE) – • See page 16 for Circuit Boards Location.

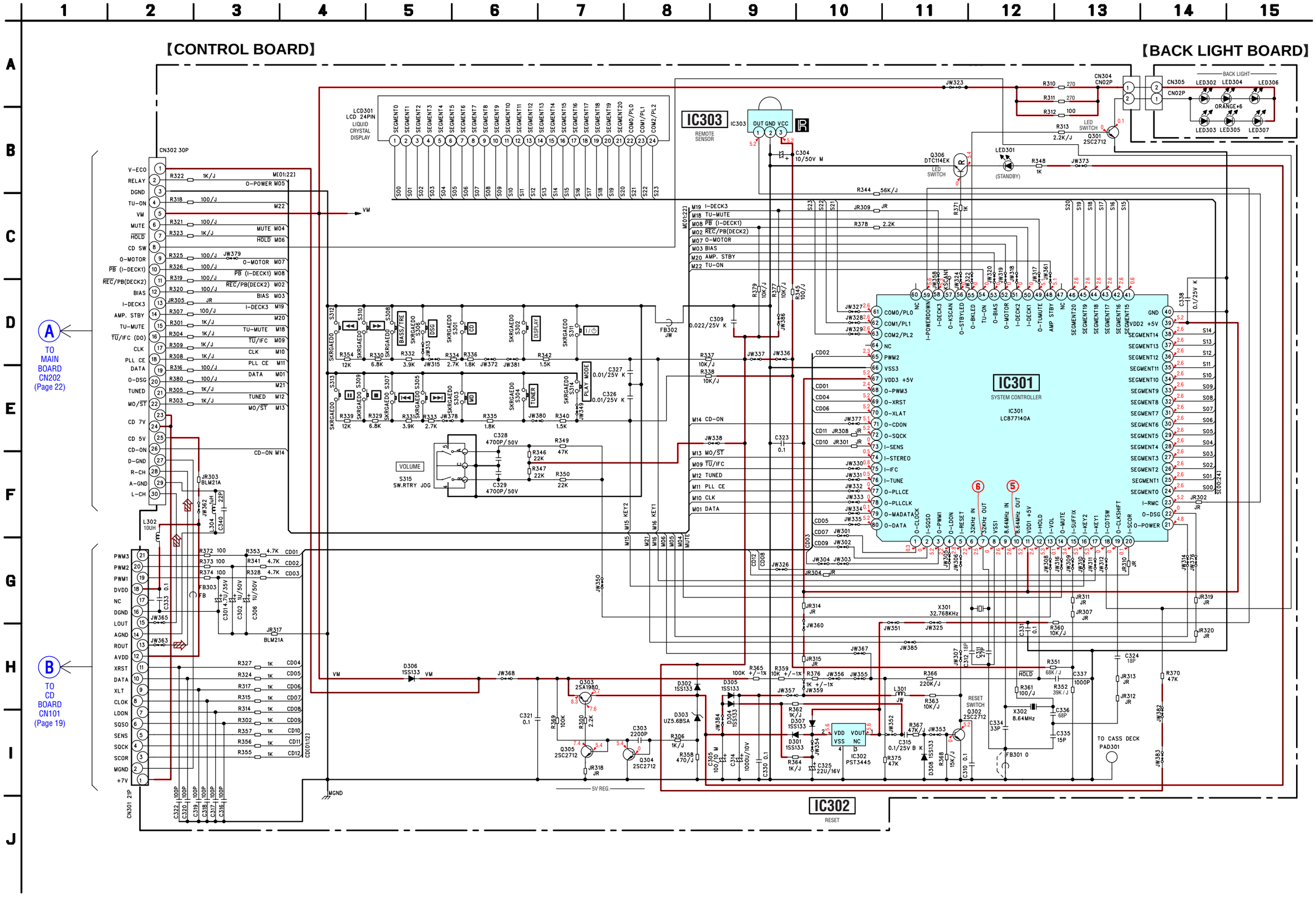
【CONTROL BOARD】(CONDUCTOR SIDE)



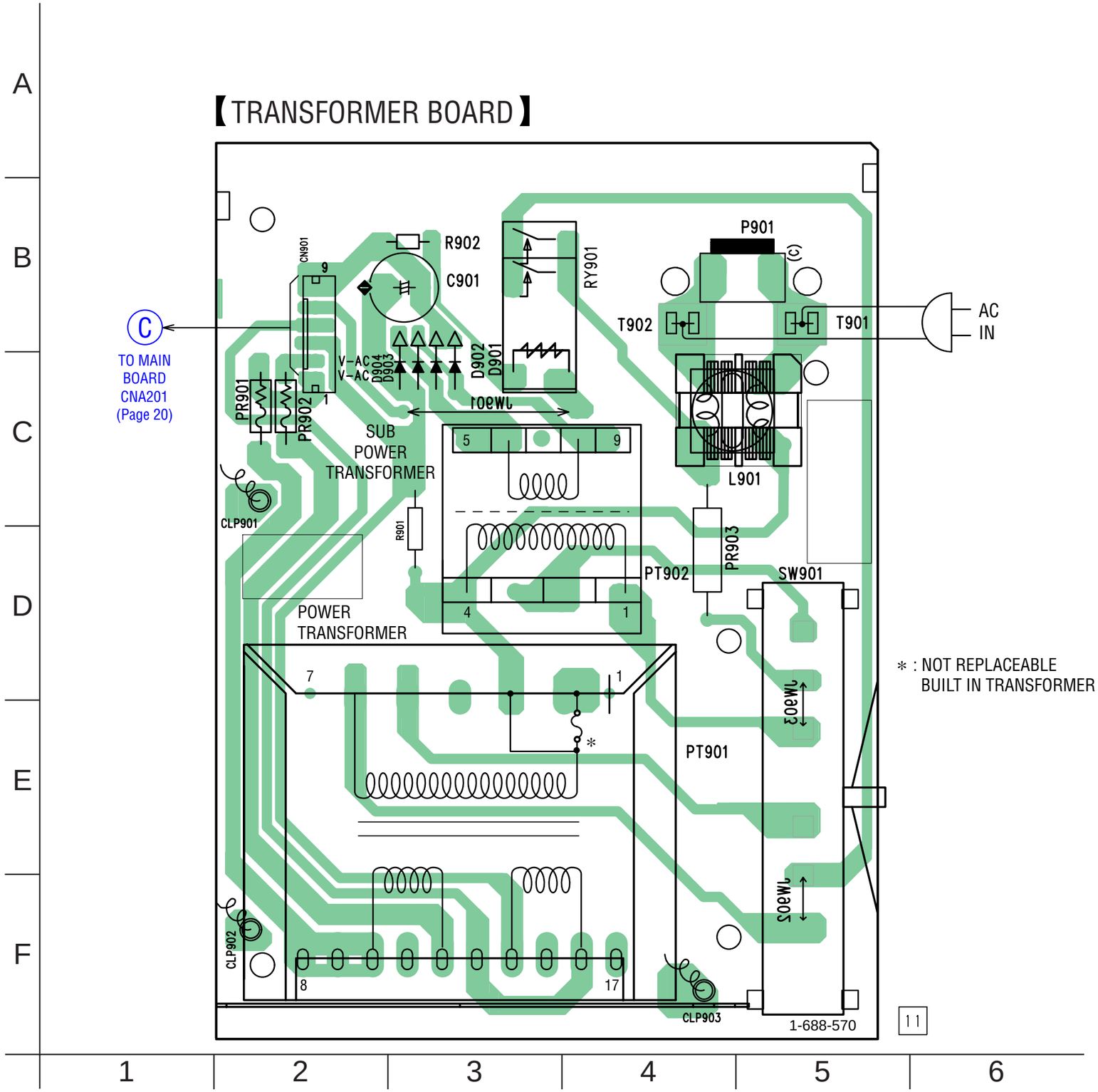
• **Semiconductor Location**

Ref. No.	Location
IC301	B-4
IC302	D-5
Q301	B-3
Q302	D-4
Q304	D-6
Q305	D-6
Q306	A-7

6-9. Schematic Diagram – CONTROL Section – • See page 16 for Waveforms.



6-10. Printed Wiring Board – POWER Section – • See page 16 for Circuit Boards Location.

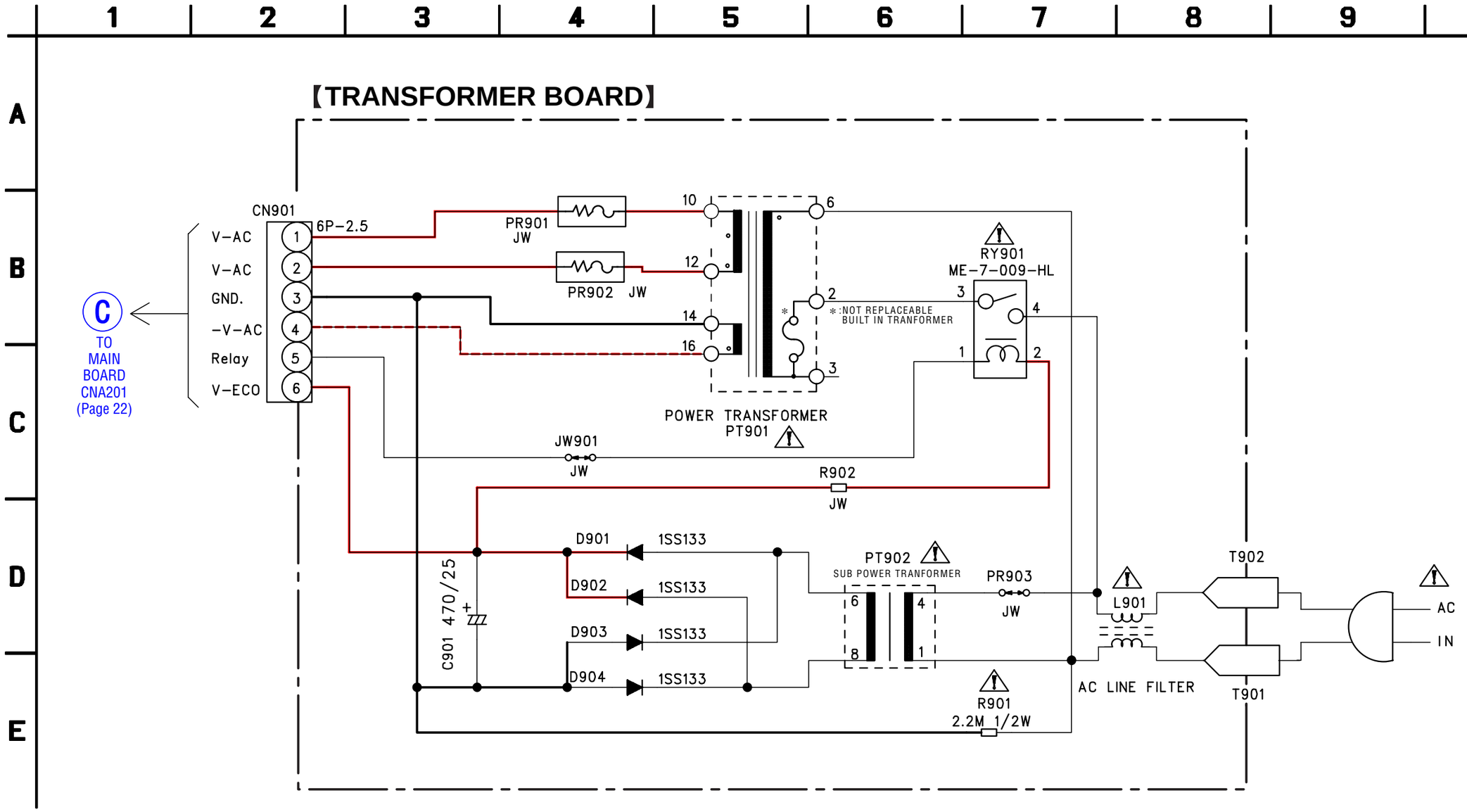


* : NOT REPLACEABLE
BUILT IN TRANSFORMER

• **Semiconductor Location**

Ref. No.	Location
D901	C-3
D902	C-3
D903	C-3
D904	C-3

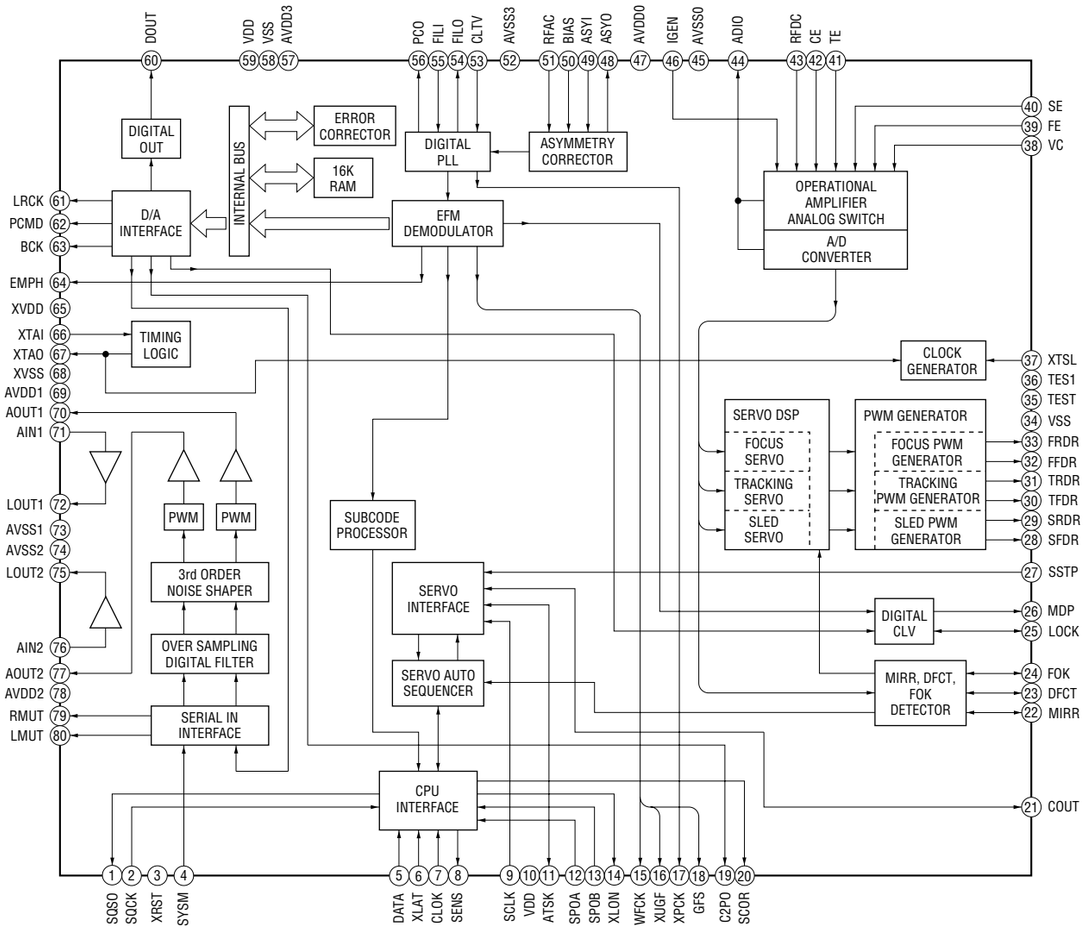
6-11. Schematic Diagram – POWER Section –



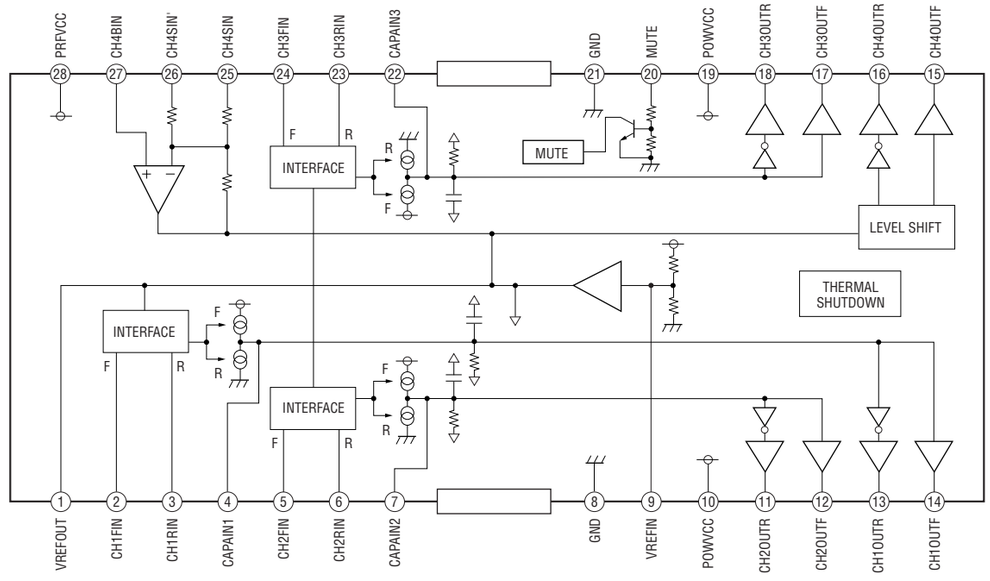
- **IC Block Diagrams**

– CD Board –

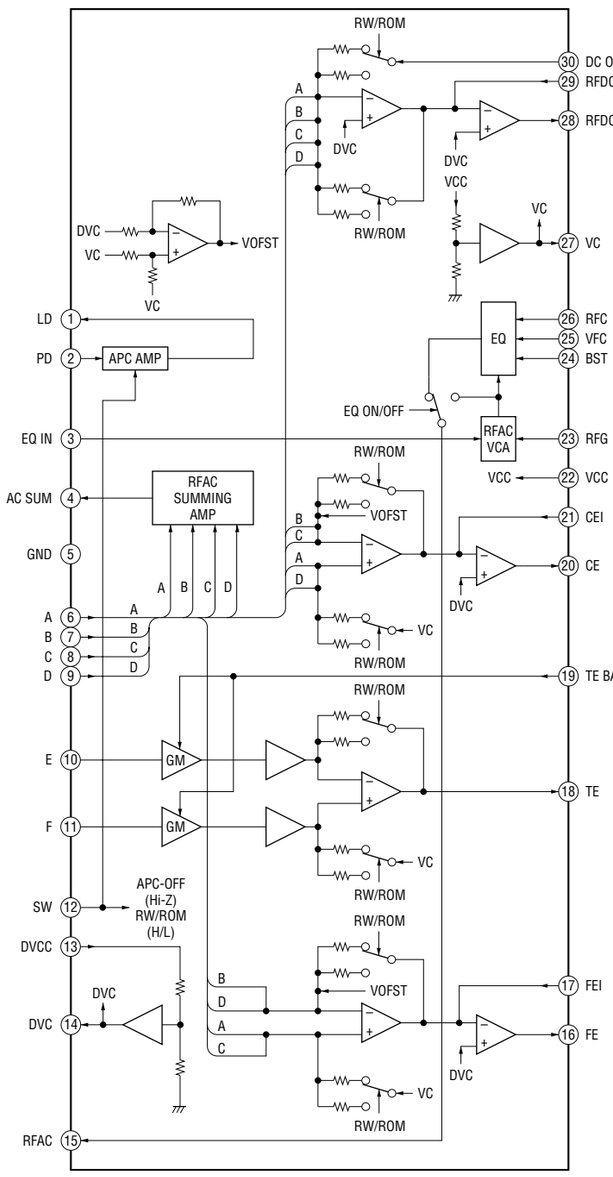
IC101 CXD3017Q



IC102 BA5974FP-E2

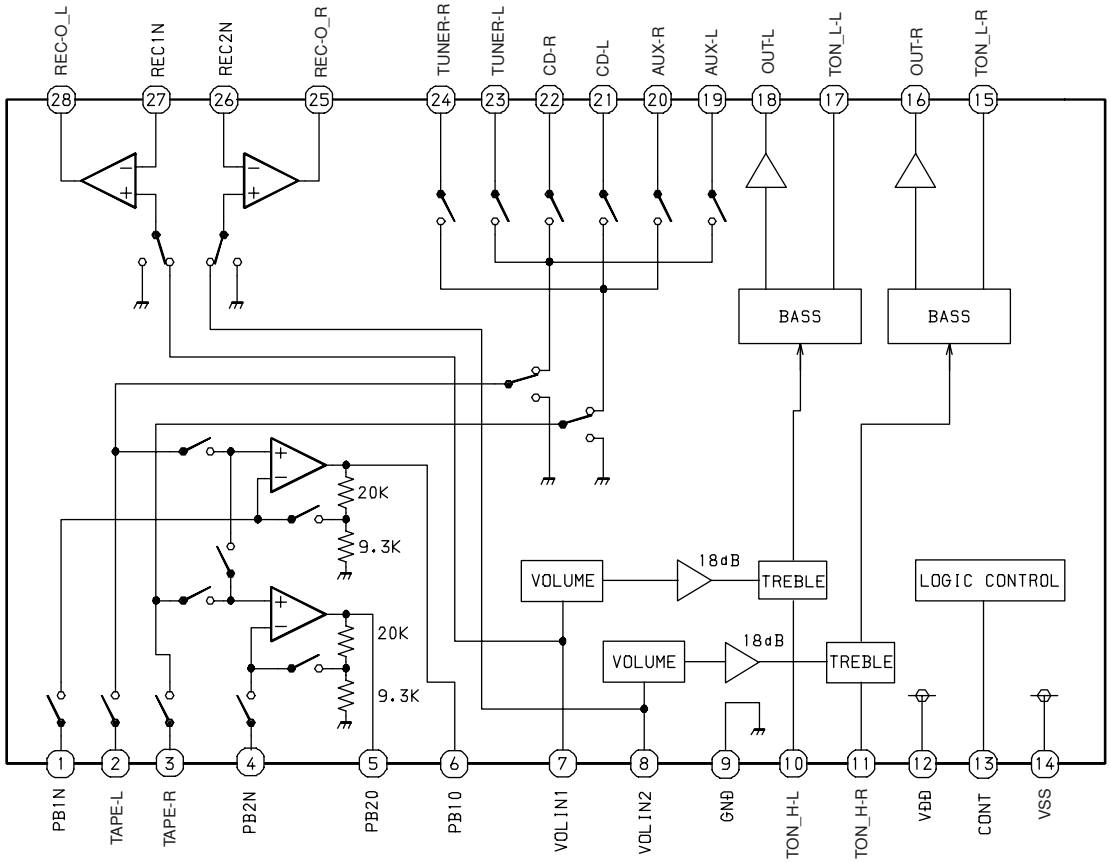


IC103 CXA2581N-T4

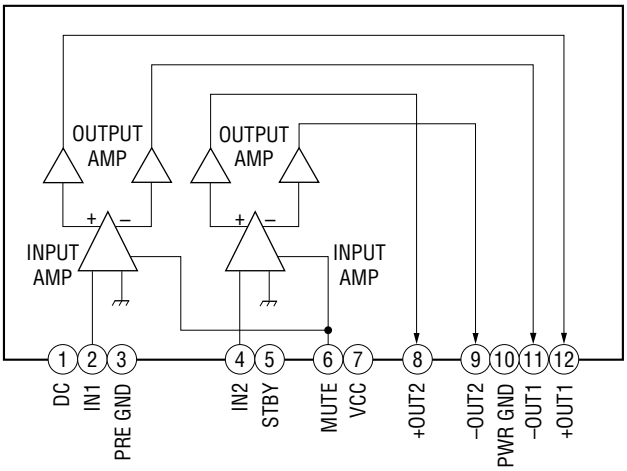


– MAIN Board –

IC601 BD3881FV



IC204 LA4636



6-12. IC Pin Function Description

• IC301 LC877140A (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	O-CLOCK	O	Clock output to the CD unit
2	I-SQSO	I	SUB-Q data input from the CD unit
3	O-PWM1	O	PWM1 signal output to the CD unit
4	O-LDON	O	LD ON signal output to the CD unit
5	I-RESET	I	Reset signal input from the reset IC (IC302)
6	32KHz IN	I	Resonator terminal (32.768kHz)
7	32KHz OUT	O	Resonator terminal (32.768kHz)
8	VSS1	—	Ground terminal
9	8.64MHz IN	I	Resonator terminal (8.64MHz)
10	8.64MHz OUT	O	Resonator terminal (8.64MHz)
11	VDD1 +5V	—	Power supply terminal
12	I-HOLD	I	Voltage detection signal input
13	I-VOL	I	Volume signal input from the encoder
14	O-MUTE	O	Muting signal output
15	I-SUFFIX	I	Model setting input terminal
16	I-KEY2	I	Key input 2
17	I-KEY1	I	Key input 1
18	I-CDTSW	I	CD door open/close switch signal input
19	O-CLKSHIFT	O	Clock shift control signal output
20	I-SCOR	I	SCOR signal input from the CD unit
21	O-POWER	O	Power relay control signal output
22	O-DSG	O	DSG signal output
23	I-RMC	I	Remote sensor signal input from the IC303
24 to 38	SEGMENT 0 to 14	O	Segment signal output to the liquid crystal display module
39	VDD2 +5V	—	Power supply terminal
40	GND	—	Ground terminal
41 to 46	SEGMENT 15 to 20	O	Segment signal output to the liquid crystal display module
47	NC	—	Not used (open)
48	AMP STBY	O	Standby control signal output to the power amplifier
49	O-TUMUTE	O	Muting signal output to the tuner
50	I-DECK1	I	Tape switch status signal input from the tape deck
51	I-DECK2	I	Tape switch status signal input from the tape deck
52	O-MOTOR	O	Motor control signal output to the tape deck
53	O-BIAS	O	Bias control signal output to the bias oscillation circuit
54	TU-ON	O	Tuner power supply control signal output
55	O-BKLED	O	Back light control signal output
56	O-STBYLED	O	STANDBY LED control signal output
57	O-KSCAN	O	Not used (open)
58	I-DECK3	I	Tape switch status signal input from the tape deck
59	I-POWERDOWN	I	Power down detection signal input
60	NC	—	Not used (open)
61	COM0/PL0	O	Common signal output to the liquid crystal display module
62	COM1/PL1	O	Common signal output to the liquid crystal display module
63	COM2/PL2	O	Common signal output to the liquid crystal display module
64	NC	—	Not used (open)
65	PWM2	O	PWM2 signal output to the CD unit
66	VSS3	—	Ground terminal
67	VDD3 +5V	—	Power supply terminal
68	O-PWM3	O	PWM3 signal output to the CD unit
69	O-XRST	O	Reset signal output to the CD unit

Pin No.	Pin Name	I/O	Description
70	O-XLAT	O	Latch signal output to the CD unit
71	O-CDON	O	CD power supply control signal output
72	O-SQCK	O	SUBQ clock output to the CD unit
73	I-SENS	I	SENS signal input from the CD unit
74	I-STEREO	I	Stereo/mono detection signal input from the tuner
75	I-IFC	I	Data input from the tuner
76	I-TUNE	I	Tuner tuned status signal input
77	O-PLLCE	O	Tuner chip enable signal output to the tuner
78	O-PLLCLK	O	Clock signal output to the tuner
79	O-MADATA	O	Data output to the tuner
80	O-DATA	O	Data output to the CD unit

SECTION 7
EXPLODED VIEWS

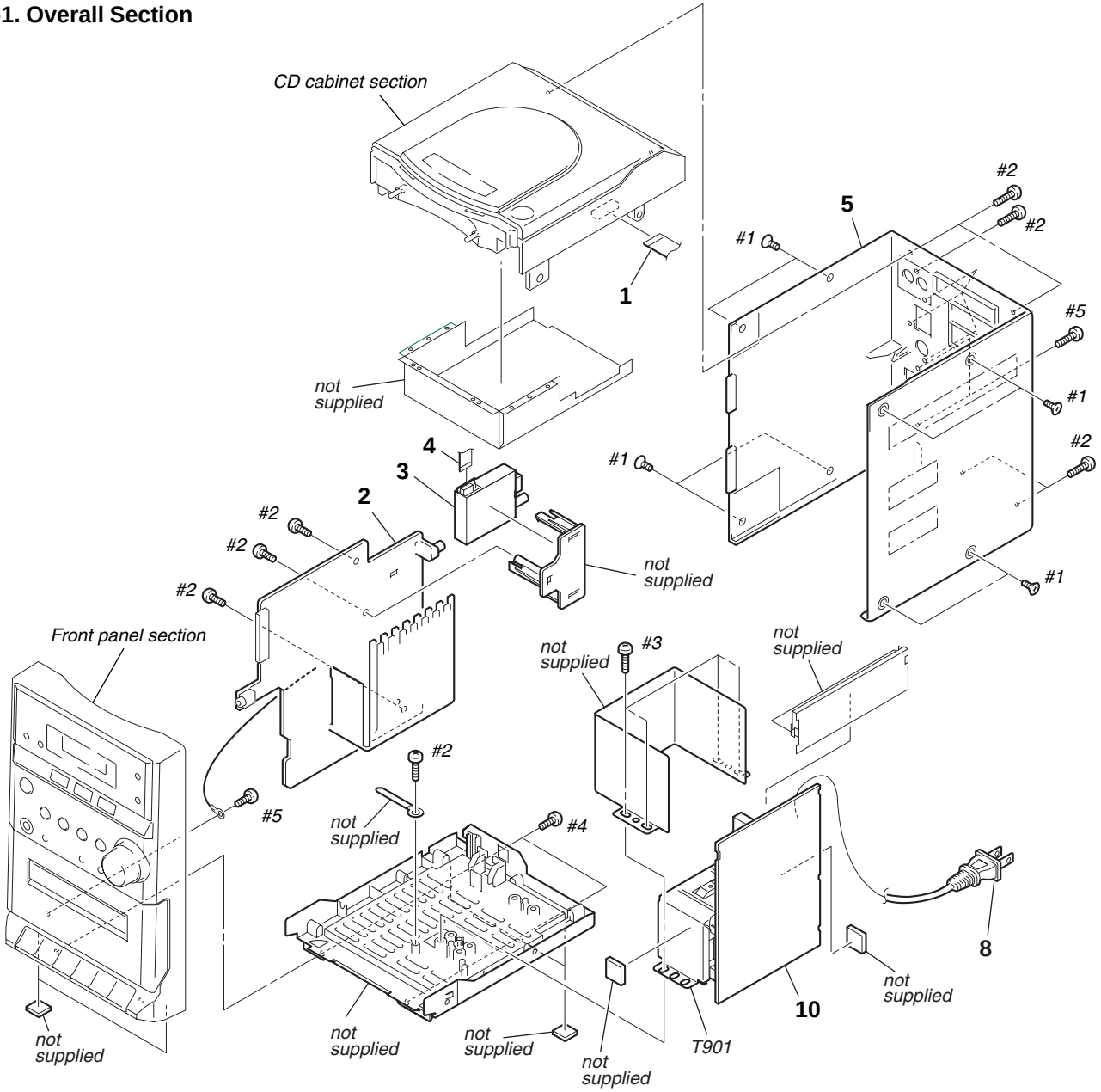
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation
  CND : Canadian model
  SP : Singapore model
  TW : Taiwan model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

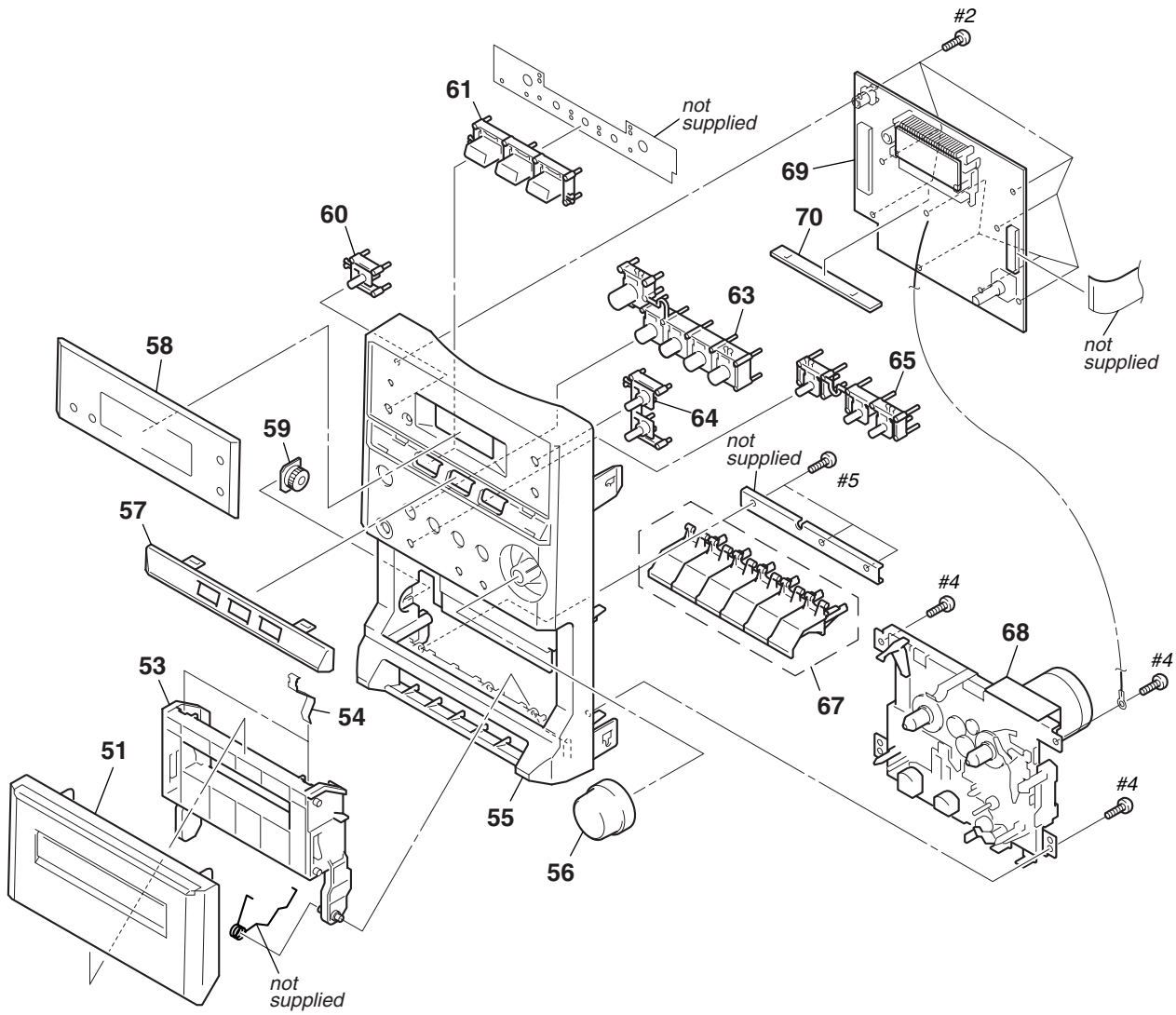
7-1. Overall Section



Ref. No.	Part No.	Description	Remark
1	1-827-714-11	WIRE (FLAT TYPE)(21 CORE)	
2	A-4732-945-A	MAIN BOARD, COMPLETE (AEP,UK)	
2	A-4732-950-A	MAIN BOARD, COMPLETE (US,CND,SP,TW)	
3	1-693-620-11	TUNER UNIT (SP, TW)	
3	1-693-622-11	TUNER UNIT (AEP, UK)	
3	1-693-624-11	TUNER UNIT (US, CND)	
4	1-775-430-11	WIRE (FLAT TYPE)(11 CORE)	
5	4-245-240-01	CABINET,REAR	
⚠8	1-555-795-00	CORD, POWER (AEP,UK,SP)	
⚠8	1-783-531-32	CORD, POWER (TW)	

Ref. No.	Part No.	Description	Remark
⚠8	1-783-532-11	CORD, POWER (US,CND)	
10	1-688-570-11	TRANSFORMER BOARD	
⚠T901	1-439-655-11	TRANSFORMER, POWER (TW)	
⚠T901	1-439-656-11	TRANSFORMER, POWER (US,CND)	
⚠T901	1-439-657-11	TRANSFORMER, POWER (AEP,UK,SP)	
#1	7-685-248-14	SCREW +KTP 3X12 TYPE2 NON-SLIT	
#2	7-685-646-14	SCREW +BVTP 3X8 TYPE2 N-S	
#3	7-685-661-79	SCREW +BVTP 4X12 TYPE2 SLIT	
#4	7-685-647-14	SCREW +BVTP 3X10 TYPE2 N-S	
#5	7-685-546-14	SCREW +BTP 3X8 TYPE2 N-S	

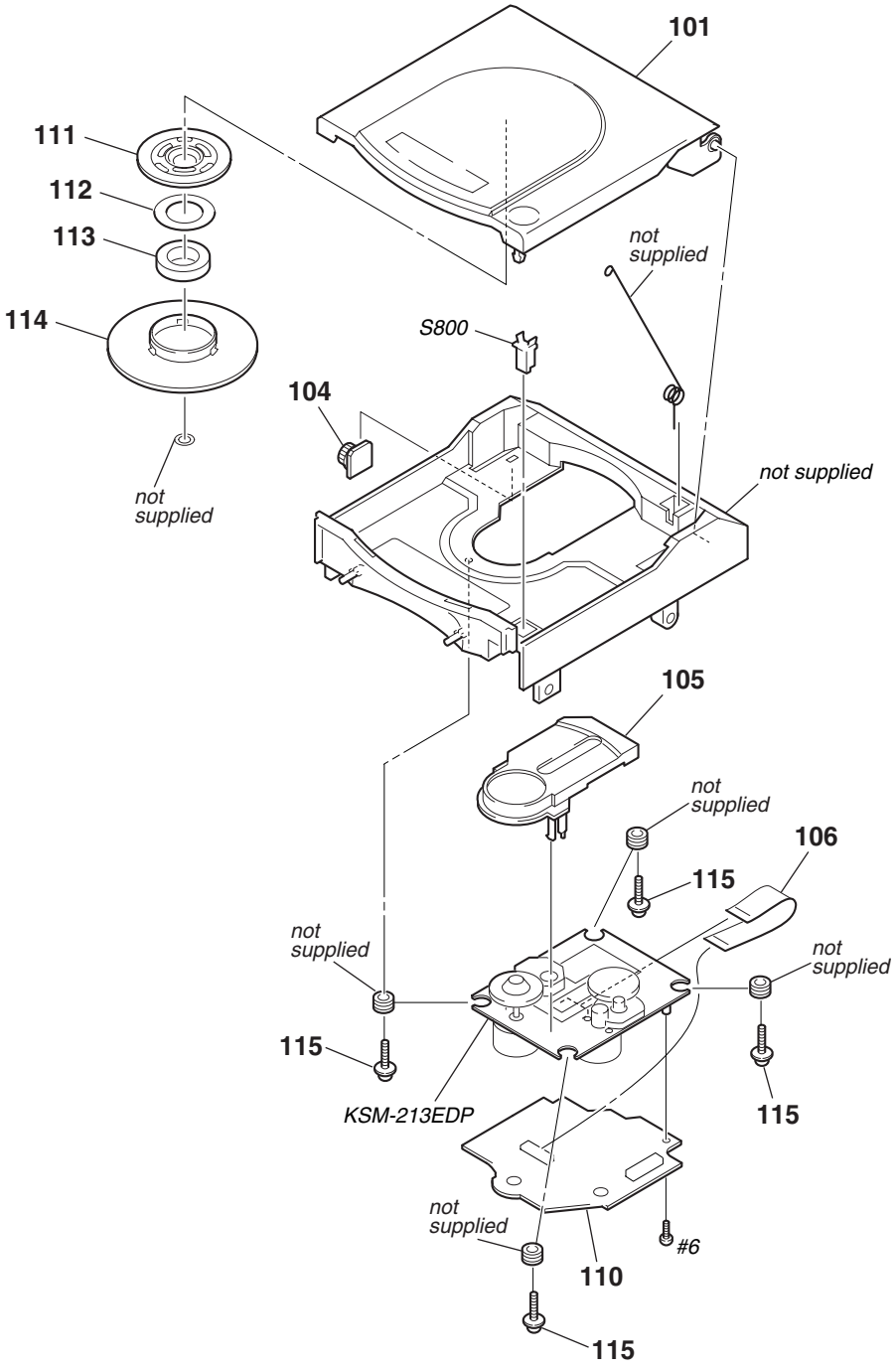
7-2. Front Panel Section



Ref. No.	Part No.	Description	Remark
51	A-4737-466-A	DOOR CASSETTE ASSY	
53	4-245-244-01	HOLDER,CASSETTE	
54	4-238-631-01	TAPE SPRING	
55	4-245-239-01	CABINET,FRONT	
56	4-244-787-01	KNOB (VOLUME)	
57	4-245-253-01	PLATE,FUNCTION	
58	4-245-245-01	WINDOW,DISPLAY (AEP,UK)	
58	4-245-245-11	WINDOW,DISPLAY (US,CND)	
59	4-242-318-01	OIL-DMPR, 70	
60	4-245-249-01	BUTTON,DISPLAY	
61	4-245-247-01	BUTTON,FUNCTION	

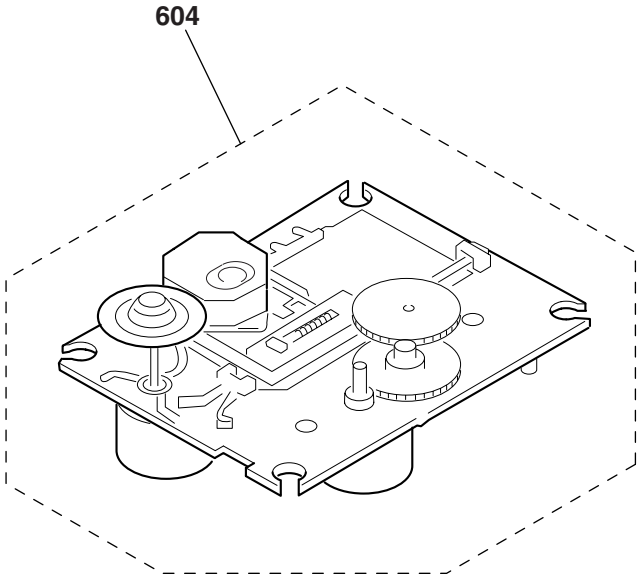
Ref. No.	Part No.	Description	Remark
63	4-245-248-01	BUTTON,CD	
64	4-245-250-01	BUTTON,BASS	
65	4-245-251-01	BUTTON,ENTER	
67	4-245-252-01	BUTTON, CASSETTE	
68	1-796-689-11	DECK MECHANICAL	
69	A-4732-942-A	CONTROL BOARD, COMPLETE (AEP,UK)	
69	A-4732-948-A	CONTROL BOARD, COMPLETE (US,CND,SP,TW)	
70	1-688-568-11	BACK LIGHT BOARD	
#2	7-685-646-14	SCREW +BVTP 3X8 TYPE2 N-S	
#4	7-685-647-14	SCREW +BVTP 3X10 TYPE2 N-S	
#5	7-685-546-14	SCREW +BTP 3X8 TYPE2 N-S	

7-3. CD Cabinet Section



Ref. No.	Part No.	Description	Remarks
101	A-4737-468-A	DOOR CD ASSY	
104	4-242-171-01	DAMPER 150 N	
105	4-247-493-01	PANEL, CD	
106	1-757-055-11	WIRE, PARALLEL (FFC) (16 CORE)	
110	A-4728-536-A	CD BOARD, COMPLETE	
111	4-246-193-01	HOLDER, CHUCK A	
112	4-246-191-01	PLATE, MAGNET	
113	4-249-238-01	MAGNET	
114	4-246-192-01	BASE, CHUCK N	
115	3-921-725-11	SCREW (2.6X10), +PWH	
S800	1-692-960-11	SW, PUSH 1-1-1	
#6	7-621-255-32	SCREW +P 2X5	

7-4. Optical Pick-up Block (KSM-213EDP)



Ref. No.	Part No.	Description	Remarks
⚠604	8-820-221-01	OPTICAL PICK-UP KSM-213EDP	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

BACK LIGHT | CD

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...
- Abbreviation
  CND : Canadian model
  SP : Singapore model
  TW : Taiwan model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
	1-688-568-11	BACK LIGHT BOARD			
		**********			
	4-245-258-01	HOLDER,LED			
		< LED >			
LED302	8-719-051-17	DIODE SLR-342DCT31			
LED303	8-719-051-17	DIODE SLR-342DCT31			
LED304	8-719-051-17	DIODE SLR-342DCT31			
LED305	8-719-051-17	DIODE SLR-342DCT31			
LED306	8-719-051-17	DIODE SLR-342DCT31			
LED307	8-719-051-17	DIODE SLR-342DCT31			
**********					
	A-4728-536-A	CD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C102	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C103	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C104	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C108	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C109	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C110	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C111	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C112	1-115-156-11	CERAMIC CHIP	1uF		10V
C114	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C116	1-126-382-11	ELECT	100uF	20.00%	16V
C117	1-126-382-11	ELECT	100uF	20.00%	16V
C118	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C121	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C122	1-126-933-11	ELECT	100uF	20.00%	16V
C123	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C124	1-125-891-11	CERAMIC CHIP	0.47uF	10.00%	10V
C125	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C126	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C127	1-126-382-11	ELECT	100uF	20.00%	16V
C130	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C131	1-126-933-11	ELECT	100uF	20.00%	16V
C133	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C140	1-115-156-11	CERAMIC CHIP	1uF		10V
C143	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C145	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C146	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C150	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C153	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C159	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V

Ref. No.	Part No.	Description			Remarks
C162	1-126-382-11	ELECT	100uF	20.00%	16V
C163	1-126-933-11	ELECT	100uF	20.00%	16V
C165	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C167	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C168	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C171	1-115-412-11	CERAMIC CHIP	680PF	5.00%	25V
C172	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C181	1-115-412-11	CERAMIC CHIP	680PF	5.00%	25V
C182	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C183	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C184	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C185	1-125-891-11	CERAMIC CHIP	0.47uF	10.00%	10V
C190	1-115-156-11	CERAMIC CHIP	1uF		10V
C191	1-126-933-11	ELECT	100uF	20.00%	16V
C192	1-126-382-11	ELECT	100uF	20.00%	16V
C193	1-126-382-11	ELECT	100uF	20.00%	16V
C194	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C196	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C197	1-107-826-11	CERAMIC CHIP	0.1uF	10.00%	16V
C198	1-126-933-11	ELECT	100uF	20.00%	16V
C199	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
		< CONNECTOR >			
CN101	1-770-528-31	CONNECTOR, FFC/FPC 21P			
CN102	1-779-553-21	CONNECTOR,FFC(LIF(NON-ZIF))16P			
		< DIODE >			
D101	8-719-056-77	DIODE UDZ-TE-17-3.9B			
		< FERRITE BEAD >			
FB101	1-469-144-21	FERRITE	0uH		
FB103	1-469-144-21	FERRITE	0uH		
		< IC >			
IC101	8-752-402-31	IC CXD3017Q			
IC102	8-759-549-28	IC BA5974FP-E2			
IC103	8-752-089-74	IC CXA2581N-T4			
		< JUMPER RESISTOR >			
JR101	1-216-864-11	METAL CHIP	0	5%	1/16W
		< TRANSISTOR >			
Q101	8-729-049-31	TRANSISTOR	2SB710A-RTX		
Q102	8-729-920-85	TRANSISTOR	2SD1664-T100-QR		

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R101	1-216-821-11	METAL CHIP	1K	5%	1/16W
R102	1-216-845-11	METAL CHIP	100K	5%	1/16W
R103	1-216-835-11	METAL CHIP	15K	5%	1/16W
R104	1-216-839-11	METAL CHIP	33K	5%	1/16W
R106	1-216-821-11	METAL CHIP	1K	5%	1/16W
R107	1-216-833-11	METAL CHIP	10K	5%	1/16W
R108	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R109	1-216-857-11	METAL CHIP	1M	5%	1/16W
R111	1-216-846-11	METAL CHIP	120K	5%	1/16W
R114	1-218-745-11	METAL CHIP	160K	5%	1/10W
R116	1-216-797-11	METAL CHIP	10	5%	1/16W
R117	1-216-821-11	METAL CHIP	1K	5%	1/16W
R118	1-216-809-11	METAL CHIP	100	5%	1/16W
R119	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R120	1-216-835-11	METAL CHIP	15K	5%	1/16W
R122	1-216-845-11	METAL CHIP	100K	5%	1/16W
R123	1-216-833-11	METAL CHIP	10K	5%	1/16W
R124	1-216-845-11	METAL CHIP	100K	5%	1/16W
R131	1-216-813-11	METAL CHIP	220	5%	1/10W
R143	1-216-836-11	METAL CHIP	18K	5%	1/16W
R144	1-216-836-11	METAL CHIP	18K	5%	1/16W
R147	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R148	1-216-797-11	METAL CHIP	10	5%	1/16W
R149	1-216-797-11	METAL CHIP	10	5%	1/16W
R150	1-216-833-11	METAL CHIP	10K	5%	1/16W
R151	1-216-845-11	METAL CHIP	100K	5%	1/16W
R158	1-216-837-11	METAL CHIP	22K	5%	1/16W
R159	1-216-837-11	METAL CHIP	22K	5%	1/16W
R162	1-216-847-11	METAL CHIP	150K	5%	1/16W
R171	1-216-837-11	METAL CHIP	22K	5%	1/16W
R172	1-216-837-11	METAL CHIP	22K	5%	1/16W
R173	1-216-837-11	METAL CHIP	22K	5%	1/16W
R181	1-216-837-11	METAL CHIP	22K	5%	1/16W
R182	1-216-837-11	METAL CHIP	22K	5%	1/16W
R183	1-216-837-11	METAL CHIP	22K	5%	1/16W
R190	1-216-813-11	METAL CHIP	220	5%	1/16W
R191	1-216-839-11	METAL CHIP	33K	5%	1/16W
R192	1-216-839-11	METAL CHIP	33K	5%	1/16W
R193	1-216-846-11	METAL CHIP	120K	5%	1/16W
R194	1-216-845-11	METAL CHIP	100K	5%	1/16W
R195	1-216-853-11	METAL CHIP	470K	5%	1/16W
R196	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R197	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< NETWORK RESISTOR >			
RN101	1-233-576-11	RES, CHIP NETWORK 100			
		< SWITCH >			
S101	1-771-853-11	SWITCH, DETECTION (LIMIT IN)			
		< VIBRATOR >			
X101	1-767-226-11	VIBRATOR, CRYSTAL 16.9344MHz			
**********					

Ref. No.	Part No.	Description			Remarks
	A-4732-942-A	CONTROL BOARD, COMPLETE (AEP,UK)			
		**********			
	A-4732-948-A	CONTROL BOARD, COMPLETE (US,CND,SP,TW)			
		**********			
	4-245-258-01	HOLDER,LED			
		< CAPACITOR >			
C301	1-124-259-11	ELECT	4.7uF	20.00%	35V
C302	1-126-960-11	ELECT	1uF	20.00%	50V
C303	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C304	1-126-964-11	ELECT	10uF	20.00%	50V
C305	1-124-584-00	ELECT	100uF	20%	10V
C306	1-126-960-11	ELECT	1uF	20.00%	50V
C307					
C308					
C309	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C310	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C311	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C312	1-162-918-11	CERAMIC CHIP	18PF	5.00%	50V
C313					
C314	1-126-926-11	ELECT	1000uF	20.00%	10V
C315	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C316	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C317	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C318	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C319	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C320	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C321	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C322	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C323	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C324	1-162-918-11	CERAMIC CHIP	18PF	5.00%	50V
C325	1-128-551-11	ELECT	22uF	20.00%	25V
C326	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C327	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C328	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C329	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C330	1-127-888-11	CERAMIC	0.1uF	10%	50V
C331	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C333	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C334	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C335	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C336	1-162-925-11	CERAMIC CHIP	68PF	5.00%	50V
C337	1-162-964-91	CERAMIC CHIP	1000P	10%	50V
C338	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C340					
		< CONNECTOR >			
CN301	1-568-864-11	CONNECTOR, FFC 21P			
CN302	1-793-767-11	CONNECTOR, BOARD TO BOARD 30P			
		< DIODE >			
D301	8-719-991-33	DIODE 1SS133T-72			
D302	8-719-991-33	DIODE 1SS133T-72			
D303	8-719-010-41	DIODE UZ-5.6BSA-TP			
D304	8-719-991-33	DIODE 1SS133T-72			
D305	8-719-991-33	DIODE 1SS133T-72			

CONTROL

Ref. No.	Part No.	Description			Remarks
D306	8-719-991-33	DIODE 1SS133T-72			
D307	8-719-991-33	DIODE 1SS133T-72			
D308	8-719-991-33	DIODE 1SS133T-72			
		< FERRITE BEAD >			
FB301	1-400-297-11	INDUCTOR	0uH		
FB303					
		< IC >			
IC301	6-802-783-01	IC LC877140A-51E2			
IC302	6-700-250-01	IC PST3445UL			
IC303	6-701-681-01	IC RPM7140-V4			
		< JUMPER RESISTOR >			
JR301	1-216-864-11	METAL CHIP	0	5%	1/16W
JR302	1-216-864-11	METAL CHIP	0	5%	1/16W
JR303	1-216-864-11	METAL CHIP	0	5%	1/16W
JR304	1-216-864-11	METAL CHIP	0	5%	1/16W
JR305	1-216-864-11	METAL CHIP	0	5%	1/16W
JR306	1-216-295-91	SHORT CHIP	0		
JR307	1-216-295-91	SHORT CHIP	0		
JR308	1-216-295-91	SHORT CHIP	0		
JR309	1-216-295-91	SHORT CHIP	0		
JR310	1-216-295-91	SHORT CHIP	0		
JR311	1-216-295-91	SHORT CHIP	0		
JR312	1-216-295-91	SHORT CHIP	0		
JR313	1-216-295-91	SHORT CHIP	0		
JR314	1-216-295-91	SHORT CHIP	0		
JR315	1-216-295-91	SHORT CHIP	0		
JR317	1-216-864-11	METAL CHIP	0	5%	1/16W
JR318	1-216-864-11	METAL CHIP	0	5%	1/16W
JR319	1-216-295-91	SHORT CHIP	0		
JR320	1-216-295-91	SHORT CHIP	0		
		< COIL >			
L301					
L302	1-408-117-00	INDUCTOR	10uH		
L304					
		< LIQUID CRYSTAL DISPLAY >			
LCD301	1-805-184-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< LED >			
LED301	8-719-059-98	DIODE SLR-342VCT31 (STANDBY)			
		< TRANSISTOR >			
Q301	8-729-230-49	TRANSISTOR	2SC2712L-TE85R		
Q302	8-729-230-49	TRANSISTOR	2SC2712L-TE85R		
Q303	6-550-296-01	TRANSISTOR	2SA1980G		
Q304	8-729-230-49	TRANSISTOR	2SC2712L-TE85R		
Q305	8-729-230-49	TRANSISTOR	2SC2712L-TE85R		
Q306	8-729-900-53	TRANSISTOR	DTC114EK		
		< RESISTOR >			
R300	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R301	1-216-821-11	METAL CHIP	1K	5%	1/16W
R302	1-216-821-11	METAL CHIP	1K	5%	1/16W
R303	1-216-821-11	METAL CHIP	1K	5%	1/16W
R304	1-216-821-11	METAL CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R305	1-216-821-11	METAL CHIP	1K	5%	1/16W
R306	1-216-821-11	METAL CHIP	1K	5%	1/16W
R307	1-216-809-11	METAL CHIP	100	5%	1/16W
R308	1-216-821-11	METAL CHIP	1K	5%	1/16W
R309	1-216-821-11	METAL CHIP	1K	5%	1/16W
R310	1-216-814-11	METAL CHIP	270	5%	1/16W
R311	1-216-814-11	METAL CHIP	270	5%	1/16W
R312	1-216-809-11	METAL CHIP	100	5%	1/16W
R313	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R314	1-216-821-11	METAL CHIP	1K	5%	1/16W
R315	1-216-821-11	METAL CHIP	1K	5%	1/16W
R316	1-216-809-11	METAL CHIP	100	5%	1/16W
R317	1-216-821-11	METAL CHIP	1K	5%	1/16W
R318	1-216-810-11	RES CHIP	120	5%	1/10W
R319	1-216-809-11	METAL CHIP	100	5%	1/16W
R320	1-216-809-11	METAL CHIP	100	5%	1/16W
R321	1-216-809-11	METAL CHIP	100	5%	1/16W
R322	1-249-417-11	CARBON	1K	5%	1/4W F
R323	1-216-821-11	METAL CHIP	1K	5%	1/16W
R324	1-216-821-11	METAL CHIP	1K	5%	1/16W
R325	1-216-809-11	METAL CHIP	100	5%	1/16W
R326	1-216-809-11	METAL CHIP	100	5%	1/16W
R327	1-216-821-11	METAL CHIP	1K	5%	1/16W
R328	1-249-425-11	CARBON	4.7K	5%	1/4W F
R329	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R330	1-249-427-11	CARBON	6.8K	5%	1/4W F
R331	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R332	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R333	1-249-422-11	CARBON	2.7K	5%	1/4W F
R334	1-249-422-11	CARBON	2.7K	5%	1/4W F
R335	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R336	1-249-420-11	CARBON	1.8K	5%	1/4W F
R337	1-249-429-11	CARBON	10K	5%	1/4W
R338	1-216-833-11	METAL CHIP	10K	5%	1/16W
R339	1-216-834-11	METAL CHIP	12K	5%	1/16W
R340	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R341	1-249-425-11	CARBON	4.7K	5%	1/4W F
R342	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R344	1-249-438-11	CARBON	56K	5%	1/4W
R345	1-216-809-11	METAL CHIP	100	5%	1/16W
R346	1-216-837-11	METAL CHIP	22K	5%	1/16W
R347	1-216-837-11	METAL CHIP	22K	5%	1/16W
R348	1-216-821-11	METAL CHIP	1K	5%	1/16W
R349	1-216-841-11	METAL CHIP	47K	5%	1/16W
R350	1-216-837-11	METAL CHIP	22K	5%	1/16W
R351	1-216-843-11	METAL CHIP	68K	5%	1/16W
R352	1-216-840-11	METAL CHIP	39K	5%	1/16W
R353	1-249-425-11	CARBON	4.7K	5%	1/4W F
R354	1-216-834-11	METAL CHIP	12K	5%	1/16W
R355	1-216-821-11	METAL CHIP	1K	5%	1/16W
R356	1-216-821-11	METAL CHIP	1K	5%	1/16W
R357	1-216-821-11	METAL CHIP	1K	5%	1/16W
R358	1-216-817-11	METAL CHIP	470	5%	1/16W
R359	1-245-191-21	METAL CHIP	10K	1%	1/10W
R360	1-216-833-11	METAL CHIP	10K	5%	1/16W
R361	1-216-809-11	METAL CHIP	100	5%	1/16W
R362	1-216-821-11	METAL CHIP	1K	5%	1/16W
R363	1-216-833-11	METAL CHIP	10K	5%	1/16W
R364	1-216-821-11	METAL CHIP	1K	5%	1/16W
R365	1-216-845-11	METAL CHIP	100K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R366	1-247-887-00	CARBON	220K	5%	1/4W
R367	1-216-841-11	METAL CHIP	47K	5%	1/16W
R368	1-216-835-11	METAL CHIP	15K	5%	1/16W
R369	1-216-845-11	METAL CHIP	100K	5%	1/16W
R370	1-216-841-11	RES CHIP	47K	5%	1/10W
R371	1-249-417-11	CARBON	1K	5%	1/4W F
R372	1-216-809-11	METAL CHIP	100	5%	1/16W
R373	1-216-809-11	METAL CHIP	100	5%	1/16W
R374	1-216-809-11	METAL CHIP	100	5%	1/16W
R375	1-216-841-11	RES CHIP	47K	5%	1/10W
R376	1-216-821-11	METAL CHIP	1K	5%	1/16W
R377	1-249-429-11	CARBON	10K	5%	1/4W
R378	1-216-825-11	RES CHIP	2.2K	5%	1/10W
R379	1-216-833-11	METAL CHIP	10K	5%	1/16W
R380	1-216-810-11	RES CHIP	120	5%	1/10W
		< SWITCH >			
S301	1-786-050-21	SWITCH, KEY BOARD (CD)			
S302	1-786-050-21	SWITCH, KEY BOARD (DISPLAY)			
S303	1-786-050-21	SWITCH, KEY BOARD (MD)			
S304	1-786-050-21	SWITCH, KEY BOARD (TUNER)			
S305	1-786-050-21	SWITCH, KEY BOARD (▶▶I)			
S306	1-786-050-21	SWITCH, KEY BOARD (DSG)			
S307	1-786-050-21	SWITCH, KEY BOARD (I◀◀)			
S308	1-786-050-21	SWITCH, KEY BOARD (BASS/TRE)			
S309	1-786-050-21	SWITCH, KEY BOARD (■)			
S310	1-786-050-21	SWITCH, KEY BOARD (▶▶)			
S311	1-786-050-21	SWITCH, KEY BOARD (I/ ⏻)			
S312	1-786-050-21	SWITCH, KEY BOARD (◀◀)			
S313	1-786-050-21	SWITCH, KEY BOARD (❚❚)			
S314	1-786-050-21	SWITCH, KEY BOARD (PLAY/MODE)			
S315	1-786-419-11	SW, RTRY RE121PVB25FINB1-24E (VOLUME)			
		< VIBRATOR >			
X301	9-300-001-87	VIB,XTAL 32.768KHZ CFS-308 CT			
X302	1-795-880-11	VIBRATOR, CERAMIC 8.64MHz			
**********					
	A-4732-950-A	MAIN BOARD, COMPLETE (US,CND,SP,TW)			
		**********			
	A-4732-945-A	MAIN BOARD, COMPLETE (AEP,UK)			
		**********			
	7-685-546-14	SCREW +BTP	3X8	TYPE2 N-S	
		< CAPACITOR >			
C200	1-126-941-11	ELECT	470uF	20.00%	25V
C201	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C202	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C203	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C204	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C205	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C206	1-128-548-11	ELECT	4700uF	20%	25V
C207	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C208	1-130-495-00	MYLAR	0.1uF	5%	50V
C209	1-104-666-11	ELECT	220uF	20.00%	25V
C210	1-130-495-00	MYLAR	0.1uF	5%	50V
C211	1-130-495-00	MYLAR	0.1uF	5%	50V
C212	1-130-495-00	MYLAR	0.1uF	5%	50V
C213	1-130-495-00	MYLAR	0.1uF	5%	50V
C221	1-126-960-11	ELECT	1uF	20.00%	50V

Ref. No.	Part No.	Description			Remarks
C222	1-126-947-11	ELECT	47uF	20.00%	25V
C223	1-126-962-11	ELECT	3.3uF	20.00%	50V
C224	1-126-961-11	ELECT	2.2uF	20.00%	50V
C225	1-126-961-11	ELECT	2.2uF	20.00%	50V
C226	1-164-174-11	CERAMIC CHIP	0.0082uF	10%	25V
C227	1-164-174-11	CERAMIC CHIP	0.0082uF	10%	25V
C228	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C229	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C230	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C240	1-126-956-91	ELECT	0.1uF	20.00%	50V
C241	1-126-956-91	ELECT	0.1uF	20.00%	50V
C242					
C243					
C248	1-164-156-91	CERAMIC CHIP	0.1uF		25V
C249					
C400	1-126-947-11	ELECT	47uF	20.00%	25V
C415	1-216-964-11	METAL	62K	1%	0.6W
C416	1-126-935-11	ELECT	470uF	20.00%	16V
C417	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C441	1-126-934-11	ELECT	220uF	20.00%	10V
C442	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C446	1-126-947-11	ELECT	47uF	20.00%	25V
C447	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C450	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C451	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C452	1-126-934-11	ELECT	220uF	20.00%	10V
C453	1-162-979-11	CERAMIC CHIP	0.0027uF	10.00%	50V
C454	1-162-979-11	CERAMIC CHIP	0.0027uF	10.00%	50V
C455	1-162-979-11	CERAMIC CHIP	0.0027uF	10.00%	50V
C456	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C457	1-106-361-00	MYLAR	0.0056uF	5.00%	100V
C461	1-162-935-11	CERAMIC CHIP	4PF	0.25PF	50V
C462	1-162-935-11	CERAMIC CHIP	4PF	0.25PF	50V
C501	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C502	1-126-947-11	ELECT	47uF	20.00%	25V
C540	1-164-230-11	CERAMIC CHIP	220PF	5.00%	50V
C588	1-126-934-11	ELECT	220uF	20.00%	10V
C601	1-164-730-11	CERAMIC CHIP	0.0012uF	10.00%	50V
C602	1-164-730-11	CERAMIC CHIP	0.0012uF	10.00%	50V
C603	1-126-961-11	ELECT	2.2uF	20.00%	50V
C604	1-126-961-11	ELECT	2.2uF	20.00%	50V
C611	1-126-956-91	ELECT	0.1uF	20.00%	50V
C612	1-126-956-91	ELECT	0.1uF	20.00%	50V
C613	1-216-957-91	METAL	33K	1%	0.6W
C614	1-216-957-91	METAL	33K	1%	0.6W
C619	1-126-961-11	ELECT	2.2uF	20.00%	50V
C620	1-126-961-11	ELECT	2.2uF	20.00%	50V
C637	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C638	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C639	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C640	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C641	1-100-229-11	C-CAP, U	6800P-50 K B GRM		
C642	1-100-229-11	C-CAP, U	6800P-50 K B GRM		
C643	1-128-551-11	ELECT	22uF	20.00%	25V
C644	1-128-551-11	ELECT	22uF	20.00%	25V
C645	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C646	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C647	1-100-229-11	C-CAP, U	6800P-50 K B GRM		
C648	1-100-229-11	C-CAP, U	6800P-50 K B GRM		
C649	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V

MAIN

Ref. No.	Part No.	Description			Remarks
C650	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C651	1-126-961-11	ELECT	2.2uF	20.00%	50V
C652	1-126-961-11	ELECT	2.2uF	20.00%	50V
C660	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C663	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C665	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C666	1-126-935-11	ELECT	470uF	20.00%	10V
C667	1-104-665-11	ELECT	100uF	20.00%	10V
C668	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C670	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C671	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C681	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C682	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C683	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C684	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C700	1-126-947-11	ELECT	47uF	20.00%	25V
C705	1-126-963-11	ELECT	4.7uF	20.00%	50V
C706	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C708	1-126-947-11	ELECT	47uF	20.00%	25V
C709	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C800	1-126-961-11	ELECT	2.2uF	20.00%	50V
C801	1-126-961-11	ELECT	2.2uF	20.00%	50V
C802	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C803	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C804	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C805	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C806	1-126-935-11	ELECT	470uF	20.00%	16V
C807	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C808	1-126-963-11	ELECT	4.7uF	20.00%	50V
C809	1-126-963-11	ELECT	4.7uF	20.00%	50V
C814	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C815	1-126-933-11	ELECT	100uF	20.00%	16V
C816	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C817	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
		< CONNECTOR >			
CN202	1-793-766-11	CONNECTOR, BOARD TO BOARD 30P			
* CN305	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
* CN501	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P			
* CN502	1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P			
CN701	1-568-830-11	CONNECTOR, FFC 11P			
		< DIODE >			
D200	6-500-376-01	DIODE 1N4003LES			
D201	6-500-378-01	DIODE 1N5402GW(F20)			
D202	6-500-378-01	DIODE 1N5402GW(F20)			
D203	6-500-378-01	DIODE 1N5402GW(F20)			
D204	6-500-378-01	DIODE 1N5402GW(F20)			
D205	8-719-991-33	DIODE 1SS133T-72			
D206	8-719-991-33	DIODE 1SS133T-72			
D207	8-719-991-33	DIODE 1SS133T-72			
D208	8-719-991-33	DIODE 1SS133T-72			
D209	8-719-991-33	DIODE 1SS133T-72			
D210	8-719-991-33	DIODE 1SS133T-72			
D211	8-719-991-33	DIODE 1SS133T-72			
D212	8-719-991-33	DIODE 1SS133T-72			
D213	8-719-991-33	DIODE 1SS133T-72			
D403	8-719-109-97	DIODE MTZJ-T-77-6.8B			

Ref. No.	Part No.	Description				Remarks
D404	8-719-991-33	DIODE 1SS133T-72				
D405	8-719-109-89	DIODE MTZJ-T-72-5.6B				
D501	8-719-991-33	DIODE 1SS133T-72				
D602	8-719-109-85	DIODE MTZJ-T-72-5.1B				
D603	8-719-109-85	DIODE MTZJ-T-72-5.1B				
D801	8-719-923-60	DIODE MTZJ-T-77-9.1A				
D802	8-719-991-33	DIODE 1SS133T-72				
D803	8-719-923-60	DIODE MTZJ-T-77-9.1A				
D804	8-719-991-33	DIODE 1SS133T-72				
		< FERRITE BEAD >				
FB201						
FB202						
FB401	1-400-297-11	INDUCTOR	0uH			
FB701	1-400-297-11	INDUCTOR	0uH			
FB710						
		< IC >				
IC200	8-759-231-53	IC TA7805S				
IC204	6-704-060-01	IC LA4636				
IC601	6-702-895-01	IC BD3881FV				
IC800	8-759-167-88	IC NJM4565D				
		< JACK >				
J201	1-793-484-11	JACK, PIN 2P				
J202	1-818-872-11	JACK (SMALL TYPE) (PHONES)				
J203	1-536-708-81	TERMINAL BOARD, PUSH (4P) (SPEAKER)				
		< COIL >				
L200	1-400-297-11	INDUCTOR	0uH			
L201	1-456-107-11	COIL, K (MDEC)				
L202	1-456-107-11	COIL, K (MDEC)				
L203	1-456-107-11	COIL, K (MDEC)				
L204	1-456-107-11	COIL, K (MDEC)				
L205	1-408-117-00	INDUCTOR	10uH			
L451	1-456-094-11	COIL, OSC	85KHZ BIAS			
		< CARBON >				
⚠ PR200	1-249-385-11	CARBON	2.2	5%	1/6W	F
⚠ PR501	1-249-385-11	CARBON	2.2	5%	1/6W	F
		< TRANSISTOR >				
Q200	8-729-230-49	TRANSISTOR	2SC2712L-TE85R			
Q205	6-550-333-01	TRANSISTOR	2SC5343GL			
Q206	6-550-333-01	TRANSISTOR	2SC5343GL			
Q400	8-729-120-28	TRANSISTOR	2SC3052F-T1-LF			
Q401	8-729-120-28	TRANSISTOR	2SC3052F-T1-LF			
Q402	8-729-024-94	TRANSISTOR	2SB1370-EF			
Q403	6-550-296-01	TRANSISTOR	2SA1980G			
Q404	6-550-333-01	TRANSISTOR	2SC5343GL			
Q405	6-550-333-01	TRANSISTOR	2SC5343GL			
Q406	6-550-344-01	TRANSISTOR	2SC3266GR			
Q450	8-729-120-28	TRANSISTOR	2SC3052F-T1-LF			
Q451	6-550-333-01	TRANSISTOR	2SC5343GL			
Q453	6-550-333-01	TRANSISTOR	2SC5343GL			
Q454	6-550-333-01	TRANSISTOR	2SC5343GL			
Q501	8-729-901-97	TRANSISTOR	2SA1036K-T-147-Q			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
Q502	6-550-296-01	TRANSISTOR	2SA1980G		
Q504	8-729-901-05	TRANSISTOR	DTA124EK		
Q505	8-729-045-62	TRANSISTOR	2SK2158-T2B		
Q506	8-729-901-05	TRANSISTOR	DTA124EK		
Q507	8-729-045-62	TRANSISTOR	2SK2158-T2B		
Q508	8-729-045-62	TRANSISTOR	2SK2158-T2B		
Q509	8-729-216-22	TRANSISTOR	2SA1162-G		
Q510	8-729-216-22	TRANSISTOR	2SA1162-G		
Q511	1-809-869-11	TRANSISTOR	DTA124EL-TL2		
Q601	8-729-030-03	TRANSISTOR	DTC144ESA-TP		
Q602	8-729-030-03	TRANSISTOR	DTC144ESA-TP		
Q701	6-550-305-01	TRANSISTOR	2SA1296GR		
Q702	8-729-030-03	TRANSISTOR	DTC144ESA-TP		
Q801	8-729-920-31	TRANSISTOR	DTC343TK		
Q802	8-729-920-31	TRANSISTOR	DTC343TK		
Q803	6-550-296-01	TRANSISTOR	2SA1980G		
Q804	8-729-029-69	TRANSISTOR	DTC114TSA-TP		
		< RESISTOR >			
R200	1-249-398-11	CARBON	27	5%	1/4W F
R201	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R202	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R203	1-247-807-31	CARBON	100	5%	1/4W
R204	1-249-385-11	CARBON	2.2	5%	1/6W F
R205	1-249-385-11	CARBON	2.2	5%	1/6W F
R206	1-249-385-11	CARBON	2.2	5%	1/6W F
R207	1-249-385-11	CARBON	2.2	5%	1/6W F
R208	1-249-429-11	CARBON	10K	5%	1/4W
R209	1-249-429-11	CARBON	10K	5%	1/4W
R221	1-216-839-11	METAL CHIP	33K	5%	1/16W
R222	1-216-841-11	METAL CHIP	47K	5%	1/16W
R223	1-216-837-11	METAL CHIP	22K	5%	1/16W
R224	1-216-821-11	METAL CHIP	1K	5%	1/16W
R225	1-216-821-11	METAL CHIP	1K	5%	1/16W
R226	1-216-821-11	METAL CHIP	1K	5%	1/16W
R227	1-216-821-11	METAL CHIP	1K	5%	1/16W
R228	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R229	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R230	1-249-427-11	CARBON	6.8K	5%	1/4W F
R231	1-249-427-11	CARBON	6.8K	5%	1/4W F
R232	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R233	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R234	1-249-433-11	CARBON	22K	5%	1/4W
R237	1-216-864-11	METAL CHIP	0	5%	1/16W
R238	1-216-864-11	METAL CHIP	0	5%	1/16W
R239	1-216-222-00	RES-CHIP	10K	5%	1/8W
R240	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R241	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R245	1-216-840-11	METAL CHIP	39K	5%	1/16W
R246	1-216-840-11	METAL CHIP	39K	5%	1/16W
R247					
R248					
R400	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R401	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R402	1-216-841-11	METAL CHIP	47K	5%	1/16W
R403	1-216-857-11	METAL CHIP	1M	5%	1/16W
R404	1-216-833-11	METAL CHIP	10K	5%	1/16W
R405	1-216-821-11	METAL CHIP	1K	5%	1/16W
R406	1-216-828-11	METAL CHIP	3.9K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R441	1-216-817-11	METAL CHIP	470	5%	1/16W
R442	1-249-425-11	CARBON	4.7K	5%	1/4W F
R443	1-216-807-11	METAL CHIP	68	5%	1/16W
R444	1-249-429-11	CARBON	10K	5%	1/4W
R445	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R446	1-216-818-11	METAL CHIP	560	5%	1/16W
R447	1-216-821-11	METAL CHIP	1K	5%	1/16W
R453	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R454	1-249-392-11	CARBON	8.2	5%	1/4W F
R455	1-216-836-11	METAL CHIP	18K	5%	1/16W
R456	1-216-836-11	METAL CHIP	18K	5%	1/16W
R458	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R459	1-216-842-11	METAL CHIP	56K	5%	1/16W
R460	1-216-845-11	METAL CHIP	100K	5%	1/16W
R465	1-216-833-11	METAL CHIP	10K	5%	1/16W
R466	1-216-833-11	METAL CHIP	10K	5%	1/16W
R467	1-216-833-11	METAL CHIP	10K	5%	1/16W
R470	1-249-393-11	CARBON	10	5%	1/4W F
R502	1-249-409-11	CARBON	220	5%	1/4W F
R503	1-216-864-11	METAL CHIP	0	5%	1/16W
R504	1-216-821-11	METAL CHIP	1K	5%	1/16W
R505	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R525	1-216-857-11	METAL CHIP	1M	5%	1/16W
R527	1-249-436-11	CARBON	39K	5%	1/4W
R528	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R530	1-216-833-11	METAL CHIP	10K	5%	1/16W
R593	1-249-429-11	CARBON	10K	5%	1/4W
R594	1-249-429-11	CARBON	10K	5%	1/4W
R599	1-249-421-11	CARBON	2.2K	5%	1/4W F
R603	1-216-840-11	METAL CHIP	39K	5%	1/16W
R604	1-216-840-11	METAL CHIP	39K	5%	1/16W
R609	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R610	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R611	1-249-432-11	CARBON	18K	5%	1/4W
R612	1-249-432-11	CARBON	18K	5%	1/4W
R613	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R617	1-216-821-11	METAL CHIP	1K	5%	1/16W
R618	1-216-821-11	METAL CHIP	1K	5%	1/16W
R619	1-216-821-11	METAL CHIP	1K	5%	1/16W
R620	1-216-821-11	METAL CHIP	1K	5%	1/16W
R633	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R634	1-218-867-11	METAL CHIP	6.8K	5%	1/10W
R635	1-216-808-11	METAL CHIP	82	5%	1/16W
R636	1-216-808-11	METAL CHIP	82	5%	1/16W
R637	1-216-817-11	METAL CHIP	470	5%	1/16W
R638	1-216-817-11	METAL CHIP	470	5%	1/16W
R639	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R640	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R641	1-216-821-11	METAL CHIP	1K	5%	1/16W
R642	1-216-821-11	METAL CHIP	1K	5%	1/16W
R643	1-216-821-11	METAL CHIP	1K	5%	1/16W
R644	1-216-821-11	METAL CHIP	1K	5%	1/16W
R645	1-216-833-11	METAL CHIP	10K	5%	1/16W
R646	1-216-833-11	METAL CHIP	10K	5%	1/16W
R647	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R648	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R649	1-216-836-11	METAL CHIP	18K	5%	1/16W
R650	1-249-432-11	CARBON	18K	5%	1/4W
R651	1-216-822-11	METAL CHIP	1.2K	5%	1/16W

MAIN TRANSFORMER

Ref. No.	Part No.	Description			Remarks
R652	1-216-822-11	METAL CHIP	1.2K	5% 1/16W	
R655	1-216-836-11	METAL CHIP	18K	5% 1/16W	
R656	1-216-836-11	METAL CHIP	18K	5% 1/16W	
R657	1-216-852-11	METAL CHIP	390K	5% 1/16W	
R658	1-216-852-11	METAL CHIP	390K	5% 1/16W	
R660	1-216-833-11	METAL CHIP	10K	5% 1/16W	
R662	1-216-829-11	METAL CHIP	4.7K	5% 1/16W	
R665	1-249-413-11	CARBON	470	5% 1/4W	F
R672	1-216-833-11	METAL CHIP	10K	5% 1/16W	
R673	1-216-833-11	METAL CHIP	10K	5% 1/16W	
R674	1-249-429-11	CARBON	10K	5% 1/4W	
R675	1-249-429-11	CARBON	10K	5% 1/4W	
R681	1-216-825-11	METAL CHIP	2.2K	5% 1/16W	
R682	1-216-825-11	METAL CHIP	2.2K	5% 1/16W	
R688	1-216-843-11	METAL CHIP	68K	5% 1/16W	
R689	1-216-843-11	METAL CHIP	68K	5% 1/16W	
R694	1-249-413-11	CARBON	470	5% 1/4W	F
R695	1-249-438-11	CARBON	56K	5% 1/4W	
R696	1-249-438-11	CARBON	56K	5% 1/4W	
R697	1-216-842-11	METAL CHIP	56K	5% 1/16W	
R698	1-216-842-11	METAL CHIP	56K	5% 1/16W	
R701	1-216-864-11	METAL CHIP	0	5% 1/16W	
R702	1-216-864-11	METAL CHIP	0	5% 1/16W	
R705	1-216-864-11	METAL CHIP	0	5% 1/16W	
R706					
R708	1-216-864-11	METAL CHIP	0	5% 1/16W	
R709	1-216-864-11	METAL CHIP	0	5% 1/16W	
R710	1-216-837-11	METAL CHIP	22K	5% 1/16W	
R711	1-216-837-11	METAL CHIP	22K	5% 1/16W	
R712	1-216-825-11	METAL CHIP	2.2K	5% 1/16W	
R713	1-216-864-11	METAL CHIP	0	5% 1/16W	
R714	1-216-864-11	METAL CHIP	0	5% 1/16W	
R800	1-216-833-11	METAL CHIP	10K	5% 1/16W	
R801	1-216-833-11	METAL CHIP	10K	5% 1/16W	
R802	1-216-833-11	METAL CHIP	10K	5% 1/16W	
R803	1-216-833-11	METAL CHIP	10K	5% 1/16W	
R804	1-216-820-11	METAL CHIP	820	5% 1/16W	
R805	1-216-829-11	METAL CHIP	4.7K	5% 1/16W	
R806	1-216-829-11	METAL CHIP	4.7K	5% 1/16W	
R807	1-216-820-11	METAL CHIP	820	5% 1/16W	
R810	1-216-825-11	METAL CHIP	2.2K	5% 1/16W	
R811	1-216-821-11	METAL CHIP	1K	5% 1/16W	
R814	1-249-404-00	CARBON	82	5% 1/4W	F
R815	1-249-404-00	CARBON	82	5% 1/4W	F
R816	1-249-407-11	CARBON	150	5% 1/4W	F
R817	1-216-823-11	RES CHIP	1.5K	5% 1/10W	
**********					
	1-688-570-11	TRANSFORMER BOARD			
		**********			
		< CAPACITOR >			
C901	1-126-941-11	ELECT	470uF	20.00% 25V	
		< DIODE >			
D901	8-719-991-33	DIODE 1SS133T-72			
D902	8-719-991-33	DIODE 1SS133T-72			
D903	8-719-991-33	DIODE 1SS133T-72			
D904	8-719-991-33	DIODE 1SS133T-72			

Ref. No.	Part No.	Description			Remarks
		< COIL >			
⚠L901					
		< TRANSFORMER >			
⚠PT901					
⚠PT902	1-439-734-11	TRANSFORMER, POWER (US,CND)			
⚠PT902	1-439-735-11	TRANSFORMER, POWER (AEP,UK,SP)			
⚠PT902	1-439-736-11	TRANSFORMER, POWER (TW)			
		< RESISTOR >			
⚠R901	1-219-236-51	RES SOLID	2.2M	20% 1/2W	
		< RELAY >			
⚠RY901	1-755-276-11	RELAY, POWER			
**********					
		MISCELLANEOUS			
		**********			
4	1-775-430-11	WIRE (FLAT TYPE)(11 CORE)			
⚠8	1-555-795-00	CORD, POWER (AEP,UK,SP)			
⚠8	1-783-531-32	CORD, POWER (TW)			
⚠8	1-783-532-11	CORD, POWER (US,CND)			
68	1-796-689-11	DECK MECHANICAL			
106	1-757-055-11	WIRE, PARALLEL (FFC) (16 CORE)			
⚠604	8-820-221-01	OPTICAL PICK-UP KSM-213EDP			
S800	1-692-960-11	SW, PUSH 1-1-1			
⚠T901	1-439-655-11	TRANSFORMER, POWER (TW)			
⚠T901	1-439-656-11	TRANSFORMER, POWER (US,CND)			
⚠T901	1-439-657-11	TRANSFORMER, POWER (AEP,UK,SP)			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2003.04	New
1.1	2003.07	Correction of EXPLODED VIEWS, 7-4 Optical Pick-up Block. (SPM-03057)
1.2	2003.07	Addition of Singapore and Taiwan model.
1.3	2004.10	Change of Part No. for J202 Addition of FLAT WIRE for Ref.No.1 (SPM-04110)
1.4	2004.11	Addition of Ref. No. 4 on EXPLODED VIEWS (SPM-04142)
1.5	2005.11	Correction of the symbols on schematics Q501 on MAIN board and Q306 on CONTROL board (SPM-05188)